Fund execs try to cut transaction costs

By Chuck Paustian

More than one-third of the pension executives of the nation's 200 largest funds took steps in 1985 to reduce transaction costs, a *Pensions & Investment Age* survey shows.

According to data compiled through questionnaires sent to sponsors of the Top 200 employee benefit funds, direct negotiation or discussion with managers and brokers is the method used most commonly. Of the 77 pension executives who said they tried to cut transaction costs last year, 26 cited direct negotiations and discussions as part of their strategy.

Other popular alternatives include increased monitoring of trades and commission costs, mentioned 11 times; doing program trades, listed eight times; using discount brokers and internal trading, each mentioned six times; and directing brokerage, mentioned five times.

In several cases, the pension officers said, they have incorporated several of the possible alternatives.

These executives are well aware of the need to control transaction costs, noted James Knupp, a principal of the Ennis, Knupp & Gold, a Chicago consulting firm.

"It's like walking down a street with a chain on your leg that you are dragging along. There is a cost to dragging it along and the more you can control it, the better off you are," said Mr. Knupp.

"The easy part that they can measure and keep track of is the brokerage cost. The hard part is the market impact of the trade itself," said Mr. Knupp.

In a separate telephone survey, several pension officers discussed how they are reducing those costs.

Wm. Irwin Arbuckle II, vice president and treasurer of The Board of Pensions of the Presbyterian Church (U.S.A.), Philadelphia, with $1.1 billion in pension assets, said his fund looks at more than just commission costs.

". . . We look at execution costs, which include commission costs," said Mr. Arbuckle.

He said the fund derives an average price for a particular stock from the high and low prices of that stock on the day of a trade.

"Then we take the same exercise for the day before and the day after the trade to see if (the managers) are trading into a rising or declining market," Mr. Arbuckle said.

The fund pays an average of 10 cents per share in commission costs, which he wants to reduce to 8 cents in 1986.

"I am attempting to persuade the investment advisers to recognize the importance of net costs, of which commissions is a part," Mr. Arbuckle said.

Charles Hundley, associate executive director of the $1.89 billion Illinois, State Universities Retirement System, Champaign, said the fund's investment managers are receptive to discussing lowering their transaction costs.

The fund has a soft-dollar arrangement with a brokerage house, but the managers are not required to direct their trades to that firm, he added. The fund receives consulting and evaluation services for its soft-dollar business.

"The managers, although they are aware of the soft-dollar arrangement, understand the trade is the most important thing, and we also want them to do (the trade) at a low cost," said Mr. Hundley.

A recently begun program to monitor trades "performs two services. It lets the managers know that we are monitoring them, and it also lets us know if there is something unusual about a particular stock," Mr. Hundley said.

The State of Connecticut Trust Funds, Hartford, with $3.68 billion in assets, has a captive broker-dealer on the Philadelphia Stock Exchange, according to Frank P. McDermott, deputy treasurer for investments.

The brokerage firm, Connecticut Nutmeg Securities Inc., is a wholly owned subsidiary of the Connecticut mutual equity fund, a part of the Connecticut trust fund system. The brokerage firm's purpose is to save money for the pension funds.

"It was established back before the time of negotiated rates. It was done because we thought we were getting ripped off on commissions," said Mr. McDermott.

In addition, Connecticut's in-house trading desk gives ". . . us better control over our soft-dollar business" and helps monitor social restrictions, he said. "It's a control mechanism."

Mr. McDermott also said the fund is moving toward using more program trades, although he did not have a figure on how much the fund expects to save through its use.

PPG Industries Inc., Pittsburgh, with $1.27 billion in pension assets, intends to start a cost-reduction program sometime this year, probably during the first quarter, said Charles H. Elmer, manager-pension investment administration.

"We haven't made any decisions yet, but we are looking at programs that would allow us to piggyback on top of our master trustee program and identify opportunities for us to reduce our transaction costs," said Mr. Elmer.

"What we're talking about here is not just commissions, but also a way to reduce the market impact of our transactions," he said.

Mr. Elmer said the most expensive of the alternatives would be to broaden the present system, which monitors every trade. Another alternative would be to use program trades, he said.

"The other one would be to use stock-index futures to increase our market exposure without buying and selling securities," he said.

An official of another fund said transaction costs were cut simply by switching banks.

Jennifer Netterville, investment portfolio specialist with the $2.11 billion Teachers Retirement System of Louisiana, Baton Rouge, said the fund moved its bonds to The Chase Manhattan Bank, New York, from it custodian bank, City National Bank of Baton Rouge.

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Top 200 asset mix

1985 vs. 1984

Corporate

	1985	1984
Stocks	48.5%	48.2%
Bonds	25.6	27.5
Cash	8.1	9.5
Real estate equity	5.3	3.9
GICs	5.4	4.5
Annuities	1.2	•
Mortgages	1.0	0.9
Mortgage-backed securities	1.0	0.4
'Other	3.9	5.1

Public

	1985	1984
Stocks	30.1%	27.1%
Bonds	46.5	47.8
Cash	8.9	11.0
Real estate equity	2.5	2.2
GICs	0.3	0.5
Annuities	0.3	•
Mortgages	3.8	4.1
Mortgage-backed securities	6.5	7.0
'Other	1.1	0.3

Union

	1985	1984
Stocks	36.9%	28.3%
Bonds	32.7	30.0
Cash	12.6	14.0
Real estate equity	3.7	6.0
GICs	5.5	2.5
Mortgages	2.2	2.7
Mortgage-backed securities	4.2	3.2
'Other	2.2	13.3

*Annuities included with other in 1984

'Other includes venture capital, oil & gas and misc. investments.

Public plans are increasing use of dedication and immunization

By Ed Christ[illegible]

The popularity of bond dedication and immunization as an investment strategy may have peaked among corporate pension funds, but its use is beginning to spread to their public counterparts.

During the past 18 months, five public funds have dedicated more than $2.2 billion; one has set up a $175 million immunized bond portfolio. They are:

- Minnesota State Board of Investment, St. Paul, which dedicated a $2 billion portfolio;
- State Teachers Retirement System of Ohio, Columbus, dedicated $140 million;
- City of Tampa (Fla.) General Employees Retirement Fund, dedicated $38 million;
- Chicago Firemen's Annuity Benefit Fund, dedicated $15 million;
- Kansas City (Mo.) Public School Retirement System, dedicated $8 million.
- Employes' Retirement System of the City of Milwaukee, immunized $175 million.

(In a dedication, a portfolio is set up to generate a cash flow attempting to match the cash flow of a known liability.

(Immunization is a form of dedication to protect against interest-rate fluctuations. The duration of the portfolio matches the duration of liabilities.

(Duration is the weighted average term to maturity where cash flows are stated at present value, according to authors H. Gifford Fong and Frank J. Fabozzi in their book "Fixed Income Portfolio Management.")

Dedication and immunzation gained momentum between 1982 and 1984, growing to $17.2 billion as of Sept. 30, 1984 from $5.2 billion as of Sept. 30, 1982, then climbed only slightly to $18.1 billion as of Sept. 30, 1985, according to *Pensions & Investment Age's* annual survey of the 200 largest U.S. employee benefit funds. However, not all of the public funds that have dedicated or immunized assets, such as Tampa employees, Chicago firemen and Kansas City public schools, are among the Top 200 funds.

The drop in interest rates is the main reason for the slowdown.

Public pension fund executives and industry observers offered a number of reasons why public funds have lagged corporate ones in using dedication and immunization:

- The public sector traditionally is more conservative and slower to use new investment management tools.
- Many public funds are underfunded, so there may not be enough assets to fund the liabilities covered by a dedication.
- Because public funds rely on legislative bodies for contributions, and dedications usually result in lower contributions by the fund sponsor, it may be difficult to get an increase in contributions, if needed, a few years out.

"In the private sector, the motivation for doing a dedication is it enhances profitability by reducing contributions and liabilities and increases cash flow," said James Kaplan, president of Capital Management Sciences, Los Angeles, which designs software for dedications, immunizations and other fixed-income products. "In the public sector, the same demands are not being made."

Decisions about the pension fund tend to become a "political matter," said Lee Munder, president of Munder Capital Management, Birmingham, Mich., which recently completed a $100 million dedication for a union fund.

Munder, which opened in April, has about $250 million under management, of which $200 million is tax exempt.

Mr. Munder said union and public funds have similar problems with dedications.

In the corporate sector, it's easier to get approval for a dedication, he said. In the public sector, the board of trustees of a pension plan is made up of labor representatives as well as city officials.

"When (the board of trustees) sees a dedication proposal, which will result in a reduction of municipal contributions, the city officials clap their hands in glee," he said.

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PBGC liabilities top growth

By Joel Chernoff

WASHINGTON — The Pension Benefit Guaranty Corp.'s liabilities soared 72% in the 1985 fiscal year, far outstripping its 28.6% growth in assets.

For the 12-month period ended Sept. 30, the PBGC had total assets of $1.44 billion, up from $1.12 billion the year before.

However, liabilities absorbed by the federal agency, resulting from the terminations of greatly underfunded pension plans, caused its liability to skyrocket. Unofficial estimates put the agency's liabilities at $2.7 billion as of Sept. 30, compared with $1.57 billion 12 months earlier.

In sum, the PBGC faces a whopping $1.3 billion deficit, all of which is attributable to its insurance program for single-employer pension plans.

The agency, which was created by the Employee Retirement Income Security Act of 1974 to back up private pension benefits, took in record claims from the terminations of pension plans maintained by Allis-Chalmers Corp. and Wheeling-Pittsburgh Steel Corp.

Allis-Chalmers' hourly plan was underfunded by $160 million, while four Wheeling-Pitt plans pending termination are estimated to be underfunded by $440 million, although the total might be somewhat higher.

In the meantime, the Reagan administration's four-year struggle to raise the annual premium paid by employers who sponsor single-employer plans was blocked by Congress' failure to pass a deficit-reduction bill before the legislators adjourned in December.

The bill, which may come up when Congress returns Jan. 21, would increase the premium to $8.50 per participant from $2.60.

The stalemate on the deficit-reduction bill also stalled efforts to close up loopholes enabling employers to transfer their pension liabilities to the PBGC.

The agency also made several money manager changes during the year ended Sept. 30.

In late 1984, it terminated Putnam Advisory Co. Inc., Boston, as manager of a $100 million equity portfolio. In early 1985, the agency

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S&P 500 outperformed for five years

TIAA-CREF scores with indexed core portfolio

By Ed Christman

NEW YORK — The $20.8 billion equity portfolio of the nation's largest pension fund has outperformed the Standard & Poor's 500 stock index during the past five years even though it is largely indexed.

For the five-year period ended Dec. 31, the equity portion of the Teachers Insurance and Annuity Association — College Retirement Equities Fund chalked up a 16% compound annual return, compared with 14.7% for the S&P 500.

Since switching 4½ years ago to the large indexed core supplemented by active managers, CREF — the equity side of the $40 billion fund — has outperformed the S&P 500 by 60 basis points.

TIAA-CREF, a nationwide retirement system for higher education, had assets totaling approximately $43.6 billion as of Dec. 31 (and $40 million as of Sept. 30, the reporting period for *Pensions & Investment Age*'s annual ranking of the largest pension funds. The assets double every 4½ years).

Of the $43.6 billion, $22.8 billion in fixed-income assets are handled by TIAA.

Of the approximately $20.8 billion in CREF's portfolio, $14.7 billion, or 70.7%, is indexed. About $12.6 billion is indexed to the S&P 500, and $2.1 billion is in small-capitalization stocks trying to replicate the Wilshire 5,000, excluding the S&P 500.

Its five-year performance has convinced two senior officers of the fund that a large indexed core is crucial to successful management of jumbo pension funds.

Walter G. Ehlers, president of TIAA-CREF, and James S. Martin, executive vice president in charge of CREF investments, said their approach is to use the large indexed core for the equity portfolio, and internal management for both the equity and fixed-income portfolios.

"The proportion of the passive part is partly a function of how much heat you can stand, I suppose, in terms of short-term deviations from the target you set for yourself," Mr. Martin said.

"Some plans may have a much larger tolerance of deviations than others."

Before switching gears, CREF used active managers who tried to control risk through modern portfolio theory.

However, in 1980 when the fund got out of oil stocks too early, CREF underperformed the S&P by five percentage points, causing Mr. Martin and his associates to lose confidence in MPT and to turn to an indexed core.

(CREF's 1980 experience probably now inspires Mr. Martin to observe, "It's more painful to come up short, than it is pleasurable to come out on the plus side of things.")

CREF had used some of the MPT tools to try to control characteristics of the portfolios such as beta and residual risk.

"The problem that we discovered with all of that, of course, is that most of these relationships typically are based on historical correlations, while the world of the late '70s and early '80s was substantially different from the world in which the ratios and the covariances and all those good things were calculated," said Mr. Martin.

Under TIAA-CREF's defined contribution structure, each plan participant directs whether TIAA or CREF should invest the assets. This frees fund executives of the asset mix decision, which is the most important decision a plan executive can make, according to Messrs. Ehlers and Martin.

"It is more important how many dollars you choose to put in equities than it is to then pick a manager that you think is going to do better in equities in general," Mr. Martin said.

Having got past the asset mix decision, "we would call a passive component in any large pension plan crucial," Mr. Martin said.

Although there is no tilt to the S&P 500 index fund that CREF runs, Mr. Martin would not rule that out forever.

"The debate goes on with things like yield tilting," he said. "I think the things that we are looking for have more to do with futures than they do with tilting.

"Principally, we are looking forward to running the index portion more efficiently. The question is whether or not it can be run more efficiently using futures and (Treasury) bills as basically a substitute for the underlying shares, and to the extent that that is a real possibility, the trade-offs are savings on custody fees and transaction fees and all the things that you might avoid if the futures market were efficient enough and broad enough."

However, TIAA-CREF is regulated by New York state's insurance department, which does not allow the use of futures.

Mr. Martin noted the use of futures is a way of providing for the liquidity needs of large funds without forcing them to sell securities in the market.

Since the middle of 1981 CREF has embellished its index core with an active effort, which now totals $6.1 billion. Of that, $3.8 billion is invested in U.S. stocks, using a dividend-discount strategy that provides the raw data on which investment decisions are based, and $2.3 billion is invested in foreign markets.

The objective, which has been met, is to achieve an overall return of 25 to 50 basis points above the market.

On the fixed-income side, a large component, approximately $7.3 billion, of the TIAA portfolio is in direct placements, Mr. Ehlers said.

A 50-member staff rides herd over those investments, allowing $4 billion in publicly traded bonds to be managed actively, he said.

The remainder of the TIAA portfolio is $10.1 billion in mortgages, $1.2 billion in equity real estate and $200 million in miscellaneous investments.

Performance figures for the TIAA portfolio are unavailable because the assets are carried at amortized cost. In 1985, the fund had a net earned rate, or yield after cost, of 11.6%.

From time to time, the fund's performance, particularly CREF's, has come under attack.

"When you are large and visible, people tend to take potshots at you," observed Mr. Ehlers, who spent nine years serving as TIAA's chief investment officer before being named president in early 1984.

From CREF's inception in July 1952 until Sept. 30, 1985, CREF has averaged a 9.6% compound annual return, compared with 10.4% for the S&P 500.

That 9.6% includes start-up costs; without those, the return would have been 10%, he said.

"You can't hang the monkey on our backs for performance done 25 years ago," added Mr. Martin. "Good (CREF) performance today on $20 billion is much more important than bad performance on $160 million 20 years ago.

"The fact of the matter remains that the CREF's performance is probably a number that a vast majority of people doing the same thing would love to have."

Mr. Martin also talked about the shortcomings of using outside money managers.

"When plan sponsors put back together the portfolio of their managers, depending on the situation, the results that they seem to get is the market less a considerable amount," he said.

If CREF officials wanted to use external managers, Mr. Martin said the fund's size means they would have to hire at least 20 firms.

"If 20 stocks can give you a diversified portfolio, then what will 20 managers give you?" Mr. Martin asked. "It would certainly give us something that probably looks like an index fund, with very high costs."

He added, "We all have 20-20 hindsight. It's so very easy to go out and find managers who have in the past done better than CREF. But although many studies have been done . . . there is not one that gives us some kind of clue as to how to pick the managers who are going to do well in the future."

In addition, Mr. Martin said, lining up the manager with the plan and its objectives is an important ingredient in the process of managing pension assets.

"Internal management can identify closer and understand better the particular goals of the plan being managed," he said.

"I'm not sure that is true of outside managers."

Messrs. Martin and Ehlers both noted critics of TIAA-CREF *never* have brought up the subject of TIAA's performance with internal management.

On the debt side, internal management is necessary because TIAA does a lot of direct placements, and "you really have to have talented investment people who are on top of the situation, who can make investment judgments," Mr. Ehlers explained.

"If there is credit deteriorations, we have people that go out and work with the company. If it looks like a deteriorating situation, we would hire management consultants to go in and see what they can do with the company. We might try to work out our position or we might try to put more money into it but we have full-time people that do nothing but watch deteriorating credit for the direct placements."

Internal management and size allow TIAA-CREF to reap the reward of having about "as low an expense ratio that you can have," Mr. Ehlers said.

"CREF's direct investment expense is about 2.5 basis points. When you add in everything, the entire expense associated is about 25 basis points, and that includes all expenses that you wouldn't get rid of if you hired outside managers. For TIAA, with everything added in, it is about 35 to 40 basis points."

Mr. Ehlers claims size gives TIAA-CREF clout in the marketplace, aiding the fund in becoming a major player in direct placements, real estate and leveraged buy-outs.

In real estate, for example, "our size allows us to bid for the biggest and best commercial real estate project out there," he said.

"We are almost routinely committing for commercial mortgage projects in excess of $100 million per single project. We have done a few single projects that were over $250 million per single project where we were sole lender. Size lets you do those things."

He added, "TIAA has done over 50 leveraged buy-outs, probably approaching $800 million. We have had very good results there." ●

Bottom 800 asset mix

1985 vs. 1984

Corporate

	1985	1984
Stocks	47.7%	49.3%
Bonds	20.2	20.4
Cash	9.7	11.5
Real estate equity	3.8	3.2
Mortgages	0.6	1.1
GICs	12.7	12.0
Annuities	2.8	*
International	1.3	1.0
'Other	1.2	1.5

Public

	1985	1984
Stocks	36.1%	33.3%
Bonds	40.7	40.9
Cash	12.4	15.5
Real estate equity	3.5	3.1
Mortgages	3.5	4.7
GICs	2.3	1.5
Annuities	0.6	*
'Other	0.9	1.0

Union

	1985	1984
Stocks	26.0%	31.9%
Bonds	39.7	39.7
Cash	10.6	13.9
Real estate equity	3.1	3.7
Mortgages	11.8	0.2
GICs	6.2	8.8
Annuities	0.4	*
International	0.1	—
'Other	2.1	1.8

*Annuities included with other in 1984.

'Other includes venture capital, oil & gas and misc. investments.

How the data were gathered

The information on employee benefit funds contained in this issue was developed in several stages.

Money Market Directories Inc., Charlottesville, Va., which annually publishes detailed information on more than 20,000 sponsors of tax-exempt funds, furnished *Pensions & Investment Age* with the identities and asset values of approximately the largest 1,000 fund sponsors.

Questionnaires were sent to the funds on that list as well as funds that appeared in last year's *P&I Age* survey. From the completed questionnaires and follow-up telephone calls, the Top 200 and Top 1,000 funds were identified.

The more detailed information contained in the profiles on the 200 largest funds (beginning on page 30) was obtained from the questionnaires, interviews with fund officials and articles published in *P&I Age*.

In the tables accompanying the profiles, NA (not available) was applied to funds that had less than $1 million allocated to the particular investment as well as to funds that could not provide a breakout of assets *but are known* to invest in those areas. Dollar amounts were rounded to the nearest million.

The asset mix break out for the Top 200 funds will not always match the dollar amounts shown in the individual tables because of problems in computing the amounts. In providing the asset allocation of pension assets as of Sept. 30, some funds used only defined benefit plan assets, some used only defined contribution plan assets and some used the combined assets. *P&I Age*, in computing the Top 200 asset mix, used defined benefit plan assets.

In most cases, the information reflects fund operations as of Sept. 30, 1985. Where no information was available from the fund, data was taken from the 1986 Money Market Directory of Pension Funds and their Investment Managers.

Money Market Directories Inc. is at 300 E. Market St., Charlottesville, Va., 22901.

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Top 200 pension funds/sponsors

(Assets in $ millions)

1.	TIAA-CREF	40,000
2.	California Public Employees'	29,166
3.	General Motors Corp.	26,300
4.	New York State Common Fund	25,997
5.	N.Y.C. Retirement Systems	25,063
6.	AT&T	24,887
7.	General Electric Co.	15,812
8.	New York State Teachers	15,303
9.	California State Teachers	15,100
10.	IBM Corp.	13,939
11.	New Jersey Div. of Investment	12,494
12.	Texas Teachers	11,188
13.	Ford Motor Co.	11,000
14.	Wisconsin Investment Board	10,800
15.	Ohio Public Employees	10,760
16.	Michigan State Employees	10,516
17.	Ohio State Teachers	10,178
18.	E.I. du Pont de Nemours & Co.	9,665
19.	NYNEX Corp.	9,447
20.	Florida Dept. of Admin.	8,911
21.	North Carolina Employees	8,773
22.	Ameritech	8,300
23.	Exxon Corp.	8,008
24.	Bell Atlantic Corp.	8,000
25.	U.S. Steel Corp.	8,000
26.	Pennsylvania School Employees	7,825
27.	BellSouth Corp.	6,983
28.	Minnesota Investment Board	6,800
29.	Washington Investment Board	6,749
30.	GTE Corp.	6,740
31.	Pacific Telesis Group	6,316
32.	Georgia State Systems	6,053
33.	Chevron Corp.	6,004
34.	Allied-Signal Inc.	6,000
35.	Teamsters, Western Conference	5,929
36.	Teamsters, Central States	5,775
37.	L.A. County Employees	5,747
38.	University of California	5,700
39.	U S WEST	5,675
40.	Eastman Kodak	5,582
41.	Boeing Co.	5,509
42.	United Technologies Corp.	5,500
43.	Sears, Roebuck & Co.	5,481
44.	Pennsylvania State Employees	5,418
45.	Rockwell International	5,218
46.	Oregon Public Employees	5,100
47.	Colorado Public Employees	5,024
48.	Maryland State System	5,020
49.	South Carolina Retirement System	4,980
50.	Shell Oil Co.	4,979
51.	McDonnell Douglas Corp.	4,914
52.	Alabama Retirement Systems	4,744
53.	Southwestern Bell Corp.	4,616
54.	Mobil Oil Corp.	4,553
55.	Virginia Supplemental System	4,509
56.	Illinois Teachers	4,474
57.	Lockheed Corp.	4,373
58.	United Nations Joint Staff	4,354
59.	Westinghouse Electric Corp.	4,250
60.	Tennessee Consolidated	4,249
61.	Arizona State System	4,103
62.	United Mine Workers	3,938
63.	Connecticut Trust Funds	3,684
64.	Amoco Corp.	3,540
65.	United Air Lines	3,411
66.	General Dynamics Corp.	3,300
67.	Texas Employees	3,300
68.	Atlantic Richfield Co.	3,250
69.	Caterpillar Tractor Co.	3,048
70.	Hughes Aircraft	3,000
71.	Missouri Public School	2,955
72.	Mass. Employees & Teachers	2,917
73.	Monsanto Co.	2,900
74.	Union Carbide Corp.	2,800
75.	RCA Corp.	2,702
76.	Prudential Insurance Co.	2,699
77.	Iowa Public Employees	2,636
78.	Bethlehem Steel Corp.	2,601
79.	Metropolitan Life Insurance Co.	2,525
80.	Sperry Corp.	2,500
81.	Chrysler Corp.	2,497
82.	Pacific Gas & Electric Co.	2,482
83.	Detroit Retirement Systems	2,469
84.	Mississippi Public Employees	2,465
85.	Hawaii Employees' System	2,374
86.	R.J. Reynolds	2,361
87.	Illinois Municipal Employees	2,318
88.	American Airlines	2,275
89.	Delta Air Lines	2,250
90.	Kansas Public Employees	2,216
91.	Alaska Retirement Systems	2,185
92.	The LTV Corp.	2,173
93.	Utah State Employees	2,160
94.	San Francisco Employees	2,157
95.	Northrop Corp.	2,142
96.	Procter & Gamble	2,123
97.	Goodyear Tire & Rubber Co.	2,123
98.	Louisiana Teachers	2,110
99.	Phillips Petroleum Co.	2,109
100.	Chicago Public School Teachers	2,074
101.	ITT Corp.	2,060
102.	Aluminum Co. of America	2,051
103.	Texaco	2,028
104.	Trans World Airlines	2,008
105.	Grumman Corp.	1,953
106.	United Methodist Pension Fund	1,945
107.	Illinois State Board	1,934
108.	Illinois State Universities	1,886
109.	Tenneco Inc.	1,878
110.	General Foods Corp.	1,855
111.	Kentucky Teachers' System	1,853
112.	Ohio Police and Firemen	1,848
113.	Xerox Corp.	1,845
114.	Deere & Co.	1,844
115.	J.C. Penney Co.	1,830
116.	Los Angeles Fire & Police	1,757
117.	Tennessee Valley Authority	1,753
118.	Indiana Public Employees	1,750
119.	Consolidated Edison	1,735
120.	Conoco Inc.	1,729
121.	Minnesota Mining & Mfg.	1,726
122.	Martin Marietta Corp.	1,705
123.	Ohio School Employees	1,704
124.	Kentucky Retirement Systems	1,656
125.	Southern Co. Services	1,650
126.	Honeywell Inc.	1,639
127.	Dow Chemical Co.	1,620
128.	Boilermakers and Blacksmiths	1,604
129.	Southern Baptist Church	1,600
130.	Nevada Public Employees	1,598
131.	Aetna Life & Casualty	1,586
132.	Eastern Air Lines	1,570
133.	Dart & Kraft	1,552
134.	Armco Inc.	1,529
135.	Louisiana State Employees	1,500
136.	Chicago Municipal Employees	1,500
137.	Owens-Illinois Inc.	1,498
138.	National Rural Electric Co-op	1,475
139.	Sun Co.	1,470
140.	World Bank	1,461
141.	Citicorp	1,432
142.	Los Angeles City	1,424
143.	Commonwealth Edison	1,401
144.	TRW	1,391
145.	Raytheon	1,365
146.	Southern California Edison	1,362
147.	Inland Steel Co.	1,332
148.	Bakery & Confectionery	1,317
149.	Oklahoma Teachers System	1,312
150.	FMC Corp.	1,300
151.	Marathon Oil Co.	1,300
152.	Standard Oil Co. (Ohio)	1,297
153.	International Paper	1,280
154.	Unocal Corp.	1,272
155.	PPG Industries	1,265
156.	Travelers Insurance	1,265
157.	Int'l Union of Oper. Eng.	1,241
158.	Getty Oil	1,230
159.	McDermott International	1,229
160.	New York Life	1,218
161.	Texas Municipal System	1,200
162.	Philip Morris	1,180
163.	Cooper Industries Inc.	1,150
164.	Hercules Inc.	1,144
165.	Arkansas Teacher System	1,134
166.	Rhode Island Employees	1,128
167.	Texas County & District	1,127
168.	West Virginia State Employees	1,116
169.	American Stores Co.	1,105
170.	Presbyterian Church Board	1,104
171.	Indiana State Teachers	1,101
172.	Bechtel Power Corp.	1,100
173.	Philadelphia Municipal Employees	1,097
174.	Teledyne	1,089
175.	Pan American World Airways	1,075
176.	Southern New England Telephone	1,075
177.	Eli Lilly & Co.	1,073
178.	New Mexico Educational	1,069
179.	Florida Power & Light	1,058
180.	International Harvester Co.	1,047
181.	L.A. Water & Power	1,037
182.	Halliburton Co.	1,018
183.	American Can Co.	1,014
184.	Episcopal Church	1,010
185.	CIGNA Corp.	1,002
186.	K mart Corp.	1,001
187.	Milwaukee City Employees	1,000
188.	Motorola	977
189.	New Mexico Public Employees	973
190.	I.A.M. National	959
191.	Eaton Corp.	955
192.	John Hancock Mutual Life	948
193.	Houston Retirement System	935
194.	Texas Instruments	930
195.	KMI Continental	928
196.	Ashland Oil	922
197.	Baltimore Employees System	920
198.	North American Philips	901
199.	Dresser Industries	900
200.	Kaiser Permanente	900
	Total	**812,442**

Ranking of funds/sponsors 201-1,000

Rank	Fund/sponsor	Location	Assets
201.	GenCorp	Akron, Ohio	900
202.	Montana Board	Helena	900
203.	Santa Fe Southern	Chicago	900
204.	MEBA	Baltimore	896
205.	National Intergroup	Pittsburgh	891
206.	Delaware State	Dover	886
207.	Abbott Labs	Abbott Park, Ill.	880
208.	Army/Air Force Exch.	Dallas	879
209.	Champion International	Stamford, Conn.	878
210.	Natl. Food Workers	Chicago	869
211.	Idaho PERS	Boise	859
212.	Maine Retirement	Augusta	857
213.	American Bar Assoc.	Chicago	855
214.	Michigan Municipal	Lansing	852
215.	BATUS	Louisville, Ky.	850
216.	Burlington Northern	Seattle	850
217.	CBS	New York	850
218.	Sandia National Labs	Albuquerque, N.M.	849
219.	Chicago Policemen	Chicago	849
220.	Financial Institutions	White Plains, N.Y.	840
221.	American Cyanamid	Wayne, N.J.	835
222.	United Telecom	Shawnee, Kan.	831
223.	Retail Clerks & Empl.	Walnut Crk., Calif.	825
224.	Merck & Co.	Rahway, N.J.	824
225.	Pacific Lighting	Los Angeles	824
226.	Bristol-Myers	New York	819
227.	Dun & Bradstreet	New York	819
228.	Amer. Elec. Power	Columbus, Ohio	804
229.	American Standard	New York	803
230.	United Parcel Service	Greenwich, Conn.	803
231.	NADA Retirement	McLean, Va.	800
232.	Upjohn	Kalamazoo, Mich.	800
233.	Warner-Lambert	Morris Plains, N.J.	800
234.	Burroughs	Detroit	795
235.	Texas Utilities	Dallas	787
236.	Arkansas PERS	Little Rock	784
237.	Federated Dept. Stores	Cincinnati	784
238.	Duke Power	Charlotte, N.C.	782
239.	Continental Can	Stamford, Conn.	778
240.	ARAMCO Services	Houston	775
241.	Rohm and Haas	Philadelphia	770
242.	Pfizer	New York	763
243.	NCR	Dayton, Ohio	763
244.	Public Safety Personnel	Phoenix, Ariz.	756
245.	Wyoming Retirement	Cheyenne	756
246.	Hallmark Cards	Kansas City, Mo.	750
247.	Montgomery Ward	Chicago	750
248.	MHT	New York	746
249.	N. England Teamsters	Boston	745
250.	Columbia Gas System	Wilmington, Del.	743
251.	Colt Industries	New York	740
252.	W.R. Grace	New York	739
253.	Colgate-Palmolive	New York	733
254.	Niagara Mohawk	Syracuse, N.Y.	731
255.	Olin	Stamford, Conn.	729
256.	Whirlpool	Benton Hbr., Mich.	727
257.	Hosp./Health #1199	New York	726
258.	Scott Paper	Philadelphia	723
259.	Litton Industries	Beverly Hills, Calif.	716
260.	Amer. Exp./Fireman's	Larkspur, Calif.	710
261.	Hewlett Packard	Palo Alto, Calif.	710
262.	S. Dakota Retirement	Pierre	701
263.	Johnson & Johnson	N. Brunswick, N.J.	700
264.	SmithKline Beckman	Philadelphia	700
265.	Missouri Employees	Jefferson City	697
266.	Cook County	Chicago	691
267.	ILGWU	New York	689
268.	Crown Zellerbach	San Francisco	688
269.	Philadelphia Electric	Philadelphia	688
270.	S. Calif. Carpenters	Los Angeles	682
271.	Union Pacific	New York	680
272.	Sheet Metal Intl.	Washington	675
273.	General Mills	Minneapolis	674
274.	Dana	Toledo, Ohio	670
275.	Gulf & Western Ind.	New York	670
276.	Oper. Eng. #12	Pasadena, Calif.	667
277.	Borg-Warner	Chicago	665
278.	CIBA-Geigy	Ardsley, N.Y.	665
279.	Food & Comm. Wrkrs.	Cypress, Calif.	661
280.	Middle South Utilities	New Orleans	660
281.	Oper. Eng. #302, #612	Seattle	656
282.	Boise Cascade	Boise, Idaho	656
283.	Orange County	Santa Ana, Calif.	650
284.	Safeway Stores	Oakland, Calif.	649
285.	Ethyl	Richmond, Va.	647
286.	Public Service E&G	Newark, N.J.	647
287.	Control Data	Minneapolis	643
288.	Northwest Airlines	St. Paul, Minn.	642
289.	Occidental Petroleum	Los Angeles	636
290.	YMCA	New York	636
291.	InterNorth	Omaha, Neb.	635
292.	Chicago Transit	Chicago	632
293.	Hoffmann-LaRoche	Nutley, N.J.	632
294.	General Public Utilities	Parsippany, N.J.	631
295.	Schlumberger	New York	631
296.	Ralston Purina	St. Louis	630
297.	Manville	Denver	628
298.	Brown & Root	Houston	623
299.	Burlington Industries	Greensboro, N.C.	615
300.	Lutheran Church/Amer.	Minneapolis	615
301.	Weyerhaeuser	Tacoma, Wash.	609
302.	Norfolk Southern	Roanoke, Va.	605
303.	Beatrice Companies	Chicago	604
304.	B.F. Goodrich	Akron, Ohio	603
305.	Ingersoll-Rand	Woodcliff Lake, N.J.	602
306.	Georgia-Pacific	Atlanta	601
307.	Central & South West	Dallas	601
308.	Cummins Engine Co.	Columbus, Ind.	600
309.	Westvaco	New York	595
310.	Detroit Edison	Detroit	593
311.	Singer	Stamford, Conn.	592
312.	Polaroid	Cambridge, Mass.	585
313.	Household Intl.	Prospect Heights, Ill.	585
314.	Corning Glass Works	Corning, N.Y.	582
315.	Owens-Corning	Toledo, Ohio	577
316.	Consumers Power	Jackson, Mich.	573
317.	Kaiser Alum. & Chem.	Oakland, Calif.	566
318.	Conrail	Philadelphia	566
319.	Minneapolis Empl.	Minneapolis	563
320.	Deseret Mutual Benefit	Salt Lake City	562
321.	Oper. Eng. #3	San Francisco	561
322.	Cons. Natural Gas	New York	557
323.	National Red Cross	Washington	555
324.	Digital Equipment	Weston, Mass.	553
325.	E-Systems	Dallas	550
326.	Libbey-Owens-Ford	Toledo, Ohio	542
327.	N.H. Retirement	Concord	540
328.	Blue Cross/BlueShield	Chicago	540
329.	Budd	Troy, Mich.	535
330.	USG	Chicago	534
331.	Savings Institutions	New York	531
332.	Cincinnati City	Cincinnati	530
333.	Wayne County	Detroit	526
334.	Armstrong World Ind.	Lancaster, Pa.	525
335.	CSX	Richmond, Va.	525
336.	PepsiCo	Purchase, N.Y.	522
337.	Alameda County	Oakland, Calif.	522
338.	N. Calif. Carpenters	San Francisco	521
339.	Southland	Dallas	521
340.	United Church Boards	New York	521
341.	Farmland Industries	Kansas City, Mo.	516
342.	San Diego County	Calif.	516
343.	Campbell Soup	Camden, N.J.	514
344.	Northeast Utilities	Hartford, Conn.	512
345.	Northern States Power	Minneapolis	506
346.	Lutheran/Mo. Synod	St. Louis	505
347.	Electricians Empl.	Flushing, N.Y.	500
348.	AMAX	Greenwich, Conn.	499
349.	Combustion Eng.	Stamford, Conn.	498
350.	Kellogg	Battle Creek, Mich.	490
351.	Winn-Dixie Stores	Jacksonville, Fla.	490
352.	American Brands	New York	488
353.	Central Pa. Teamsters	Reading	488
354.	Denver Public Schools	Denver	487
355.	Greyhound	Phoenix, Ariz.	484
356.	IBEW Intl. HQ	Washington	483
357.	Coca-Cola	Atlanta	480
358.	Mass. Bay Transit	Boston	480
359.	San Bernardino County	Calif.	480
360.	Motion Picture Ind.	Studio City, Calif.	479
361.	Baltimore G&E	Baltimore	475
362.	Emhart	Hartford, Conn.	475
363.	Pillsbury	Minneapolis	475
364.	N. Dakota State	Bismarck	475
365.	Chesebrough-Pond's	Westport, Conn.	475
366.	San Diego City	Calif.	474
367.	Air Products & Chem.	Allentown, Pa.	473
368.	Continental Telecom	Atlanta	470
369.	City Investing	New York	469
370.	Quaker Oats	Chicago	467
371.	Kimberly-Clark	Dallas	466
372.	Anheuser-Busch	St. Louis	465
373.	NL Industries	New York	465
374.	Time	New York	458
375.	Reynolds Metals	Richmond, Va.	457
376.	People's Energy	Chicago	453
377.	Amer. Baptist Church	New York	452
378.	Battelle Memorial Inst.	Columbus, Ohio	451
379.	ICMA	Washington	451
380.	San Jose City	Calif.	450
381.	U.S. Air	Washington	450
382.	Marsh & McLennan	New York	447
383.	Sherwin-Williams	Cleveland	444
384.	Dallas City	Dallas	443
385.	Virginia Power	Richmond	441
386.	Contra Costa County	Martinez, Calif.	440
387.	General Signal	Stamford, Conn.	440
388.	Dayton Hudson	Minneapolis	439
389.	Masters/Mates/Pilots	Linthicum Hts., Md.	435
390.	Pa. Power & Light	Allentown	433
391.	S. Calif. Laborers	Los Angeles	431
392.	R. R. Donnelly & Sons	Chicago	430
393.	Container Corp./Amer.	Chicago	428
394.	Emerson Electric	St. Louis	427
395.	Teamsters	Chicago	425
396.	Uniroyal	Middlebury, Conn.	425
397.	Fairchild Industries	Chantilly, Va.	424
398.	Sacramento County	Calif.	422
399.	Cincinnati Bell	Cincinnati	422
400.	Morton-Thiokol	Chicago	420
401.	Penn Central	Greenwich, Conn.	420
402.	Alaska Teamsters	Anchorage	419
403.	Firestone Tire & Rubber	Akron, Ohio	419
404.	Stone & Webster	New York	418
405.	Milwaukee County	Milwaukee	417
406.	Avon Products	New York	415
407.	Laborers Texas Natl.	Dallas	412
408.	White Consolidated	Cleveland	412
409.	Ohio Edison	Akron	411
410.	Harris	Melbourne, Fla.	410
411.	Clothing/Textile Wrkrs.	New York	410
412.	NYC Carpenters	New York	405
413.	May Dept. Stores	St. Louis	403
414.	Tektronix	Beaverton, Ore.	403
415.	Cleveland Electric	Cleveland	403
416.	AFTRA	New York	400
417.	De Luxe Check	St. Paul, Minn.	400
418.	Timken	Canton, Ohio	400
419.	Allied Stores	New York	396
420.	Teamsters #710	Chicago	395
421.	Schering-Plough	Madison, N.J.	395
422.	Chicago Laborers	Forest Park, Ill.	390
423.	Navy Resale	Staten Island, N.Y.	390
424.	Primark	Detroit	390
425.	Graphic Comm. Intl.	Washington	388
426.	Montgomery County	Rockville, Md.	388
427.	Baltimore County	Towson, Md.	387
428.	Oper. Eng. #150	Countryside, Ill.	387
429.	Ex-Cell-O	Troy, Mich.	385
430.	Houston Industries	Houston	385
431.	Squibb	Princeton, N.J.	385
432.	Texas Eastern	Houston	385
433.	Union Camp	Wayne, N.J.	385
434.	Memphis City	Tenn.	384
435.	Nebraska Investment	Lincoln	384
436.	Sundstrand	Rockford, Ill.	384
437.	Vermont State	Montpelier	383
438.	Gillette	Boston	382
439.	Liberty Mutual Ins.	Boston	382
440.	ICI Americas	Wilmington, Del.	381
441.	ABC	New York	381
442.	Koppers	Pittsburgh	380
443.	Levi Strauss & Co.	San Francisco	380
444.	Transco Energy	Houston	380
445.	Cleveland Carpenters	Cleveland	378
446.	Allegheny Power	New York	378
447.	Amer. Hospital Supply	Evanston, Ill.	375
448.	U.S. Gypsum	Chicago	374
449.	New England Electric	Westboro, Mass.	374
450.	Christian Fund	Indianapolis	372
451.	Pennzoil	Houston	372
452.	ITU Negotiated Plan	Colo. Springs, Colo.	370
453.	Food Workers Natl. HQ	Washington	369
454.	Painters/Allied Trades	Washington	368
455.	N.Y. Longshoremen	New York	367
456.	Cincinnati Milacron	Cincinnati	365
457.	Fruehauf	Detroit	363
458.	IC Industries	Chicago	363
459.	Amer. Nat. Resources	Detroit	361
460.	Louisiana Schools	Baton Rouge	360
461.	National Elevator	New Castle, Del.	359
462.	Musicians' Federation	New York	358
463.	Chicago Firemen	Chicago	357
464.	AMP	Harrisburg, Pa.	357
465.	Norton	Worcester, Mass.	356
466.	Union Electric	St. Louis	356
467.	Southern Pacific	San Francisco	354
468.	Wisconsin Electric	Milwaukee	353
469.	H.J. Heinz	Pittsburgh	352
470.	GCLU	Los Angeles	352
471.	Sara Lee	Chicago	352
472.	A J Bayless Markets	Phoenix, Ariz.	352
473.	Amer. Home Products	New York	351

Ranking of funds/sponsors 201-1,000

Rank	Fund/sponsor	Location	Assets
474.	American Motors	Southfield, Mich.	350
475.	ENSERCH	Dallas	350
476.	F.W. Woolworth	New York	535
477.	Mead	Dayton, Ohio	350
478.	Sandoz	New York	350
479.	MidCon	Lombard, Ill.	350
480.	Briggs & Stratton	Milwaukee	350
481.	N. Calif. Laborers	San Francisco	349
482.	Rexnord Plastic Eng.	Brookfield, Wis.	348
483.	Aerospace	El Segundo, Calif.	348
484.	New York State E&G	Ithaca, N.Y.	347
485.	Fluor	Irvine, Calif.	346
486.	AMCA International	Hanover, N.H.	346
487.	CPC International Inc.	Englewood Cl., N.J.	345
488.	Teamsters #705	Chicago	344
489.	Food Wrkrs/Retail	Atlanta	344
490.	Arthur D. Little	Cambridge, Mass.	342
491.	ASARCO	New York	340
492.	J.P. Stevens & Co.	New York	340
493.	Kroger	Cincinnati	340
494.	Serv.Empl. #32B, #32J	New York	339
495.	Clark Equipment	Buchanan, Mich.	336
496.	A.O. Smith	Milwaukee	336
497.	Mo. Local Gov't.	Jefferson City, Mo.	336
498.	Cincinnati G&E	Cincinnati	334
499.	Intl. Typographical HQ	Colo. Springs, Colo.	334
500.	McGraw-Hill	New York	331
501.	Marriott	Washington	329
502.	Florida Progress	St. Petersburg, Fla.	328
503.	Inter-Local Pension	Chicago	328
504.	Paperworkers Intl.	Nashville, Tenn.	328
505.	Paper Industry Union	Nashville, Tenn.	326
506.	Chicago Carpenters	Chicago	325
507.	Jacksonville City	Florida	325
508.	Screen Act./Prod.	N. Hollywood	325
509.	Seattle Employees	Seattle	325
510.	Printing Pressmen	Los Angeles	324
511.	Perkin-Elmer	Norwalk, Conn.	324
512.	Oper. Eng. Ohio #18	Cleveland	324
513.	W. Lumber Production	Portland, Ore.	324
514.	Calif. Plumbers	Los Angeles	322
515.	Allen-Bradley	Milwaukee	322
516.	Roadway Services	Akron, Ohio	322
517.	W. Pa. Teamsters	Pittsburgh	320
518.	Carpenter Technology	Reading, Pa.	318
519.	Borden	Columbus, Ohio	314
520.	Panhandle Eastern	Kansas City, Mo.	313
521.	Allis-Chalmers	Milwaukee	313
522.	IBEW #11	Los Angeles	312
523.	Amstar	New York	310
524.	Boc Group	Montvale, N.J.	310
525.	Long Island Lighting	Hicksville, N.Y.	310
526.	Washington Post	Washington	308
527.	Pitney Bowes	Stamford, Conn.	308
528.	Phelps Dodge	New York	305
529.	NMU	New York	304
530.	Williams Companies	Tulsa, Okla.	304
531.	Western Union	U. Saddle Riv., N.J.	303
532.	Ventura County	Calif.	303
533.	Arthur Andersen & Co.	Chicago	302
534.	Nat'l Dist. & Chem.	New York	301
535.	Celanese	New York	300
536.	Mich. Consolidated Gas	Detroit	300
537.	Miami City Employees	Miami	299
538.	Goldman, Sachs	New York	298
539.	Graphic Arts #245	Chicago	298
540.	Colorado Fire & Police	Denver	296
541.	Geo. A. Hormel & Co.	Austin, Minn.	295
542.	ILWU-PMA	San Francisco	295
543.	National Maritime	New York	295
544.	S. Calif. Rapid Transit	Los Angeles	294
545.	Interlake	Oak Brook, Ill.	294
546.	Pennwalt	Philadelphia	293
547.	Walgreen	Deerfield, Ill.	292
548.	Kern County	Bakersfield, Calif.	292
549.	N.Y. State Teamsters	Utica, N.Y.	292
550.	Mars	McLean, Va.	290
551.	McKesson	San Francisco	290
552.	Northern Illinois Gas	Aurora, Ill.	290
553.	Amsted Industries	Chicago	290
554.	Gannett Co.	Rochester, N.Y.	288
555.	Anchor Hocking	Lancaster, Ohio	288
556.	Lever Brothers	Englewood Cl., N.J.	287
557.	ILWU-PMA	San Francisco	287
558.	Food Wrkrs. #455	Houston	285
559.	Reader's Digest Assoc.	Pleasantville, N.Y.	285
560.	Mitre	Bedford, Mass.	285
561.	Agway	Syracuse, N.Y.	285
562.	Cement Workers Intl.	Elk Grove Vill., Ill.	284
563.	Fresno County	Calif.	283
564.	Calif. Iron Workers	San Marino, Calif.	283
565.	Carnation	Los Angeles	282
566.	Lear Siegler	Santa Monica, Calif.	282
567.	Miles Labs	Elkhart, Ind.	282
568.	Milliken & Co.	Spartanburg, S.C.	282
569.	Mercantile Stores	New York	281
570.	Laborers Intl. HQ	Washington	280
571.	Atlanta General	Atlanta	279
572.	Delmarva Power & Light	Wilmington, Del.	279
573.	Joseph E. Seagram	New York	277
574.	Food Wrkrs. #27	Baltimore	277
575.	Allegheny International	Pittsburgh	276
576.	Lithographers	Washington	276
577.	Moore Business (USA)	New York	276
578.	Minneapolis Teachers	Minneapolis	275
579.	Tribune	Chicago	275
580.	Detroit Carpenters	Southfield, Mich.	275
581.	Seafarers Intl. HQ	Camp Springs, Md.	273
582.	Coastal	Houston	271
583.	Building Trades	Milwaukee	271
584.	Public Service/Colo.	Denver	270
585.	Becton Dickinson	Paramus, N.J.	270
586.	Sonat	Birmingham, Ala.	270
587.	Oper. Eng. #324	Birmingham, Mich.	270
588.	Fort Worth Employees	Texas	267
589.	Piedmont Aviation	Wins.-Salem, N.C.	267
590.	Kidde	Saddle Brook, N.J.	265
591.	Hughes Tool	Houston	264
592.	Laborers Construction	Forest Park, Ill.	264
593.	Inter-Amer. Dev. Bank	Washington	260
594.	Dallas Police & Fire	Dallas	260
595.	Fairfax County	Fairfax, Va.	260
596.	Chef Pierre	Traverse City, Mich.	258
597.	Intl. Minerals & Chem.	Mundelein, Ill.	258
598.	GrandMet USA	Montvale, N.J.	257
599.	Centel	Chicago	256
600.	Flint City Employees	Mich.	255
601.	Anderson, Clayton	Houston	255
602.	Endata	Nashville, Tenn.	252
603.	Nalco Chemical	Oak Brook, Ill.	250
604.	Arizona Public Service	Phoenix, Ariz.	249
605.	Brunswick	Skokie, Ill.	248
606.	San Joaquin County	Stockton, Calif.	248
607.	Rohr Industries	Chula Vista, Calif.	248
608.	Savings Banks Empl.	Boston	248
609.	Picklands Mather & Co.	Cleveland	246
610.	Boston Edison	Boston	246
611.	Jim Walter	Tampa, Fla.	246
612.	Peat, Marwick, Mitchell	New York	246
613.	Boy Scouts of America	Irving, Texas	245
614.	Gulf States Utilities	Beaumont, Texas	245
615.	Hospital Corp./Amer.	Nashville, Tenn.	245
616.	S.C. Johnson & Son	Racine, Wis.	244
617.	Great North. Nekoosa	Stamford, Conn.	244
618.	Denver Employees	Denver	243
619.	GATX	Chicago	243
620.	Zenith Electronics	Chicago	243
621.	STA-ILA	Baltimore	242
622.	Reliance Electric	Cleveland	240
623.	Alexander & Alexander	Baltimore	240
624.	Blue Bell	Greensboro, N.C.	240
625.	Equitable Life	New York	240
626.	Publix Super Markets	Lakeland, Fla.	240
627.	Graybar Electric	Clayton, Mo.	240
628.	Wheeling-Pittsburgh	Pittsburgh	239
629.	Hartford Employees	Conn.	239
630.	Gates	Denver	239
631.	Memphis Light, G&W	Tenn.	239
632.	James River	Richmond, Va.	238
633.	Midwest Food Wrkrs.	Chicago	238
634.	Johnson & Higgins	New York	237
635.	Rapid-American	New York	237
636.	Carter Hawley Hale	Los Angeles	237
637.	Phila. Carpenters	Philadelphia	235
638.	Esmark	Chicago	235
639.	Mass. Carpenters	Burlington	235
640.	Champion Spark Plug	Toledo, Ohio	234
641.	Chubb	New York	234
642.	Chicago Food Wrkrs.	Chicago	234
643.	San Diego Gas & Elec.	Calif.	234
644.	Akzo America	Enka, N.C.	233
645.	Food Wrkrs #876	Madison Hts., Mich.	233
646.	Cont./IBEW #134	Chicago	233
647.	Armstrong Rubber	New Haven, Conn.	233
648.	N. Dakota Teachers	Bismarck	232
649.	Carpenters, C&W Ind.	Indianapolis	232
650.	N. Ind. Pub. Service	Hammond	232
651.	Washington Gas Light	Washington	231
652.	Baker International	Orange, Calif.	231
653.	Cleveland-Cliffs Iron	Cleveland	230
654.	Calif. Food Workers	Oakland	230
655.	SCM	New York	230
656.	Phila. Teamsters	Philadelphia	230
657.	Fort Howard Paper	Green Bay, Wis.	230
658.	Tiger International	Los Angeles	229
659.	Outboard Marine	Waukegan, Ill.	228
660.	Nietz Electric	Rochester, Minn.	228
661.	Steelcase	Gr. Rapids, Mich.	227
662.	Mobay Chemical	Pittsburgh	226
663.	Vol. Hosps. & Homes	New York	226
664.	Hershey Foods	Hershey, Pa.	225
665.	Lukens	Coatesville, Pa.	225
666.	Potlatch	San Francisco	225
667.	Public Schools	St. Louis	225
668.	Sterling Drug	New York	225
669.	Hammermill Paper	Erie, Pa.	225
670.	Brockway (N.Y.)	Brockway, Pa.	223
671.	Baxter Travenol Labs	Deerfield, Ill.	221
672.	Alco Standard	Valley Forge, Pa.	220
673.	Burroughs Wellcome	Research Tri., N.C.	220
674.	Comm. Clearing House	Chicago	220
675.	Plumbers #597	Chicago	219
676.	Johnson Controls	Milwaukee	219
677.	Sanders Associates	Nashua, N.H.	219
678.	W. Wash. Carpenter	Seattle	219
679.	San Mateo County	Redwood City, Calif.	219
680.	Wal-Mart Stores	Bentonville, Ark.	218
681.	Maytag	Newton, Iowa	218
682.	Typographical Union	Chicago	218
683.	Gerber Products	Fremont, Mich.	217
684.	USAA	San Antonio, Texas	217
685.	Western Metal Industry	Seattle	215
686.	Sheet Metal, #108	Los Angeles	215
687.	United Energy Res.	Houston	215
688.	J.M. Huber	Edison, N.J.	213
689.	AMFAC	San Francisco	213
690.	Rochester G&E	Rochester, N.Y.	212
691.	McKinsey & Co.	New York	212
692.	ONEOK	Tulsa, Okla.	211
693.	Brooklyn Union Gas	Brooklyn, N.Y.	211
694.	Phoenix City	Ariz.	211
695.	R.H. Macy & Co.	New York	211
696.	Sacramento City	Calif.	211
697.	EG&G	Wellesley, Mass.	210
698.	National Geographic	Washington	210
699.	Maritime Assoc. & ILA	Houston	210
700.	Ogden	New York	210
701.	Newmont Mining	New York	210
702.	Diamond Shamrock	Dallas	209
703.	Potomac Electric	Washington	209
704.	Amerada Hess	New York	208
705.	Chicago Sanitary Dist.	Chicago	208
706.	Natl. Football League	New York	207
707.	Baton Rouge/Parish	Baton Rouge, La.	206
708.	Federal-Mogul	Detroit	206
709.	Greater Cleve. Hospital	Cleveland	205
710.	Vulcan Materials	Birmingham, Ala.	205
711.	Koch Industries	Wichita, Kan.	204
712.	St. Louis Employees	Missouri	204
713.	Square D	Palatine, Ill.	203
714.	BASF Wyandotte	Parsippany, N.J.	203
715.	Cultural Institutions	New York	203
716.	Alumax	San Mateo, Calif.	202
717.	Northwest Pipeline	Salt Lake City	201
718.	National Fuel & Gas	Buffalo, N.Y.	200
719.	Fresno City	Calif.	200
720.	Inco United States	New York	200
721.	Joy Manufacturing	Pittsburgh	200
722.	National Can	Chicago	200
723.	Teamsters #182	Utica, N.Y.	200
724.	Arlington County	Virginia	200
725.	Automotive Industries	Oakland, Calif.	199
726.	S'western Pub. Serv.	Amarillo, Texas	199
727.	Illinois Power	Decatur, Ill.	199
728.	Norfolk Employees	Virginia	199
729.	Nestle	White Plains, N.Y.	198
730.	Columbus/S.Ohio Elec.	Columbus, Ohio	198
731.	Cyclops	Pittsburgh	198
732.	Equifax	Atlanta	198
733.	District 9 IAM & AW	Bridgeton, Mo.	198
734.	Gould	Roll. Meadows, Ill.	197
735.	IBEW #1547	Anchorage, Alaska	197
736.	Okla. Gas & Elec.	Oklahoma City	196
737.	UAW Dist. #65	New York	196
738.	Knight-Ridder	Miami	196
739.	Pacific Power & Light	Portland, Ore.	196
740.	Natl. Telephone Co-op	Washington	195
741.	Clothing/Textile Wrkrs.	New York	194
742.	Park Employees	Chicago	194
743.	Ohio Laborers	Columbus	194
744.	Bricklayers Intl.	Washington	193
745.	Loews	New York	193
746.	Consolidated Papers	Wis. Rapids, Wis.	193
747.	Tampa Fire & Police	Tampa, Fla.	192

Ranking of funds/sponsors 201-1,000

Rank	Fund/sponsor	Location	Assets
748.	Tecumseh Products	Tecumseh, Mich.	192
749.	Longshoremen	New Orleans	191
750.	McDonald's	Oak Brook, Ill.	190
751.	Carolina Power & Light	Raleigh, N.C.	190
752.	First Boston	New York	190
753.	Illinois Carpenters	Geneva, Ill.	190
754.	Kerr-McGee	Oklahoma City	190
755.	Springs Industries	Fort Mill, S.C.	190
756.	Texasgulf	Stamford, Conn.	190
757.	Salt River Project	Phoenix, Ariz.	188
758.	Texas Gas Trans.	Owensboro, Ky.	188
759.	Steelworkers Natl. HQ	Pittsburgh	187
760.	Daniel International	Greenville, S.C.	187
761.	Curtiss-Wright	Lindhurst, N.J.	186
762.	Alaska Laborers	Seattle	185
763.	American Hoechst	Somerville, N.J.	185
764.	Cargill	Minneapolis	185
765.	Hearst	New York	185
766.	Peabody Holding	St. Louis	185
767.	Varian Associates	Palo Alto, Calif.	185
768.	ARKLA	Shreveport, La.	185
769.	National Gypsum	Dallas	182
770.	N. Dakota Employees	Bismarck	180
771.	Hawaiian Electric	Honolulu	179
772.	Laborers #22	Boston	177
773.	Upholsterers Intl. HQ	Philadelphia	176
774.	Utah Power & Light	Salt Lake City	176
775.	Ohio Iron Workers	Charleston, W. Va.	175
776.	Arco Babcock	Fairfield, Conn.	175
777.	Birmingham City	Alabama	175
778.	Illinois Tool Works	Chicago	175
779.	Morrison-Knudsen Co.	Boise, Idaho	175
780.	St. Paul Teachers	Minn.	175
781.	C.W. Sweeney	Dublin, Calif.	174
782.	Auto Workers Natl. HQ	Detroit	174
783.	Torchmark	Birmingham, Ala.	174
784.	Rochester Telephone	Rochester, N.Y.	173
785.	Frontier Airlines	Denver	173
786.	Ohio Casualty	Hamilton, Ohio	173
787.	W. Pa. Laborers	Pittsburgh	173
788.	K.C. Power & Light	Missouri	172
789.	Pechiney	Greenwich, Conn.	171
790.	Interco	St. Louis	171
791.	H.&G.L. Local 472-172	Newark, N.J.	170
792.	Stanley Works	New Britain, Conn.	170
793.	Pacific Maritime Assoc.	San Francisco	170
794.	ACF Industries	Earth City, Mo.	169
795.	Moorman Mfg.	Quincy, Ill.	169
796.	Cessna Aircraft	Wichita, Kan.	169
797.	Portland General Elec.	Oregon	169
798.	Todd Shipyards	New York	168
799.	American Insurance	New York	167
800.	Marin County	San Rafael, Calif.	167
801.	Oakland County	Pontiac, Mich.	167
802.	Black & Decker	Towson, Md.	166
803.	Michigan Laborers	Lansing	166
804.	Associated Dry Goods	New York	165
805.	Republic Airlines	Minneapolis	165
806.	Texas Iron Workers	Houston	165
807.	Pittston	Greenwich, Conn.	164
808.	Natl. Industrial Group	Florham Park, N.J.	164
809.	Adolph Coors	Golden, Colo.	164
810.	US Fidelity & Guaranty	Baltimore	163
811.	Santa Fe International	Alhambra, Calif.	163
812.	Acme-Cleveland	Cleveland	163
813.	Combined Insurance	Chicago	163
814.	Harsco	Camp Hill, Pa.	163
815.	Oper. Eng. #825	West Orange, N.J.	163
816.	Sybron	Rochester, N.Y.	163
817.	Ernst & Whinney	Cleveland	163
818.	Signode Industries	Glenview, Ill.	161
819.	Northern Telecom	Nashville, Tenn.	161
820.	Nashville/Davidson Co.	Tenn.	160
821.	Puget Sound P&L	Bellevue, Wash.	160
822.	Duquesne Light	Pittsburgh	160
823.	Brown Group	St. Louis	159
824.	Castle & Cooke	San Francisco	159
825.	Ozark Air Lines	St. Louis	159
826.	NVF	Miami Beach, Fla.	159
827.	Hersey Products	Dedham, Mass.	158
828.	MAPCO	Tulsa, Okla.	158
829.	Marmon Group	Chicago	158
830.	S. Ohio Iron Workers	Dayton	158
831.	Foster Wheeler	Livingston, N.J.	158
832.	Building Service Trust	San Francisco	157
833.	Wis. Public Service	Green Bay, Wis.	157
834.	Austin Employees	Texas	157
835.	Wm. Wrigley Jr.	Chicago	157
836.	American Petrofina	Dallas	156
837.	Mich. Blue Cross	Detroit	155
838.	M.A. Hanna	Cleveland	155
839.	Major League Players	New York	155
840.	Wang Laboratories	Lowell, Mass.	155
841.	Producer-Writers Guild	Burbank, Calif.	155
842.	Tandy	Fort Worth, Texas	154
843.	Dravo	Pittsburgh	154
844.	Federal Express	Memphis, Tenn.	153
845.	Arkansas Highway	Little Rock	153
846.	Mid-Jersey Truck #701	N. Brunswick, N.J.	153
847.	Oakland Police & Fire	Calif.	152
848.	Commercial Credit	Baltimore	152
849.	St. Joe Minerals	Clayton, Mo.	152
850.	W. Mich. Int. Medicine	Gr. Rapids, Mich.	152
851.	K.C. Blue Cross	Kansas City, Mo.	152
852.	Farley/Northwest Ind.	Chicago	151
853.	Arthur Young U.S.	New York	151
854.	Shelby County	Memphis, Tenn.	151
855.	New York Times	New York	150
856.	Actors Equity/Extras	New York	150
857.	Atlantic City Electric	Pleasantville, N.J.	150
858.	Carpenters Locals/Ill.	Springfield, Ill.	150
859.	Org. of Amer. States	Washington	150
860.	Royal Indemnity	New York	150
861.	S. Calif. Clerks	Los Angeles	150
862.	TBG	New York	150
863.	S. Calif. Auto Club	Los Angeles	149
864.	Witco Chemical	New York	149
865.	Hotel/Rest. Local #165	Las Vegas, Nev.	149
866.	Amer. Water Works	Haden Heights, N.J.	149
867.	Dayton Power & Light	Dayton, Ohio	149
868.	Clothing & Textile Natl.	New York	148
869.	Syntex	Palo Alto, Calif.	148
870.	PaineWebber Group	New York	148
871.	SKF Industries	King of Prussia, Pa.	148
872.	Dennison Mfg.	Waltham, Mass.	147
873.	S. Carolina E&G	Columbia	146
874.	Commonwealth Energy	Cambridge, Mass.	146
875.	Western Pa. Laborers	Pittsburgh	146
876.	Thomas J. Lipton	Englewood Cl., N.J.	146
877.	Richardson-Vicks	Wilton, Conn.	145
878.	Lone Star Industries	Greenwich, Conn.	144
879.	Tyler	Dallas	144
880.	N. N.J. Iron Workers	Newark	143
881.	Barnes Group	Bristol, Conn.	143
882.	Continental Grain	New York	142
383.	Witco Corp.	Woodcliff Lake, N.J.	142
884.	Courier-Journal	Louisville, Ky.	141
885.	San Antonio Fire/Police	Texas	141
886.	Santa Barbara County	Calif.	141
887.	Dow Jones & Co.	Princeton, N.J.	140
888.	Hiram Walker & Sons	Detroit	140
889.	Iron Workers #25	Detroit	140
890.	Simpson Timber	Seattle	139
891.	Stanadyne	Windsor, Conn.	139
892.	Knoxville City	Tenn.	138
893.	K.C. Public Schools	Kansas City, Mo.	138
894.	Pa. Municipal	Harrisburg	138
895.	Media General	Richmond, Va.	138
896.	S. Cal. Plasterers	El Monte, Calif.	138
897.	Masonite	Chicago	137
898.	Figgie International	Richmond, Va.	137
899.	Banco Popular	Hato Rey, P.R.	136
900.	Machinist #701	Chicago	136
901.	ARA Services	Philadelphia	135
902.	Copperweld	Pittsburgh	135
903.	Leo Burnett	Chicago	135
904.	Minnegasco	Minneapolis	135
905.	Bell & Howell	Skokie, Ill.	135
906.	W.W. Grainger	Skokie, Ill.	135
907.	Bulova Watch	Flushing, N.Y.	135
908.	Auto Machinist #289	Seattle	134
909.	Louisiana Pacific	Portland, Ore.	133
910.	MEBA Dist. 2	Brooklyn, N.Y.	133
911.	Food Workers #174	New York	132
912.	A.B. Dick	Chicago	132
913.	TECO Energy	Tampa, Fla.	131
914.	Ampco Pittsburgh	Boston	131
915.	Questar	Salt Lake City	131
916.	Plumbers National HQ	Washington	131
917.	Clevepak	Purchase, N.Y.	131
918.	Arvin Industries	Columbus, Ind.	131
919.	PACCAR	Bellevue, Wash.	130
920.	Carpenters Intl. HQ	Tacoma, Wash.	129
921.	Food Wrkrs. #1001	Seattle	129
922.	Copley Press	La Jolla, Calif.	128
923.	N. Calif. Laborers	San Francisco	128
924.	Revere, Copper	Stamford, Conn.	128
925.	Warner Comm.	New York	128
926.	Longshoremen ILA	Baltimore	128
927.	Iron Workers	Pasco, Wash.	127
928.	Service Empl. #144	New York	127
929.	Wisconsin Gas	Milwaukee	127
930.	ConAgra	Omaha, Neb.	127
931.	Eagle-Picher Ind.	Cincinnati	127
932.	Houston Natural Gas	Houston	127
933.	Teamsters #282	Elmont, N.Y.	127
934.	A.E. Staley Mfg.	Roll. Meadows, Ill.	127
935.	N'western Steel & Wire	Sterling, Ill.	127
936.	Dan River	Danville, Va.	127
937.	Cannon Mills	Kannapolis, N.C.	126
938.	United Brands	New York	126
939.	Oper. Eng. #15	New York	126
940.	Phila. Iron Workers	Philadelphia	125
941.	Lincoln Electric	Cleveland	125
942.	Indianapolis Power	Indianapolis	125
943.	Parker-Hannifin	Cleveland	125
944.	Central Illinois Light	Peoria	124
945.	Dayco	Dayton, Ohio	124
946.	Carpenters #1310	St. Louis	124
947.	TPF&C	Philadelphia	124
948.	Grand Union	Elmwood Park, N.J.	124
949.	Amica Mutual Insur.	Providence, R.I.	123
950.	Thyssen-Bornemisza	New York	123
951.	Oper. Eng. #542	Norristown, Pa.	123
952.	MCA	Universal City, Calif.	123
953.	S. Cal. Food Wrkrs.	Los Angeles	123
954.	Genstar	San Francisco	122
955.	Hartmarx	Chicago	122
956.	Police/Fire	Gr. Rapids, Mich.	122
957.	Andersen	Bayport, Minn.	122
958.	Toledo Edison	Ohio	122
959.	Richmond Supplement	Virginia	122
960.	Machinists #67	Washington	121
961.	American Greetings	Cleveland	120
962.	American Intl. Group	New York	120
963.	Masco	Taylor, Mich.	120
964.	Molders Allied Workers	Cincinnati	120
965.	Sheller-Globe	Toledo, Ohio	120
966.	Siemens Capital	New York	120
967.	AMF	White Plains, N.Y.	119
968.	Cenex	St. Paul, Minn.	119
969.	Dillon Companies	Hutchinson, Kan.	119
970.	Louisville G&E	Kentucky	119
971.	St. Louis Police	St. Louis	118
972.	Bucyrus-Erie	Milwaukee	118
973.	Enterprise Association	L. Island City, N.Y.	118
974.	Indiana State Laborers	Terre Haute	118
975.	Srs. of Mercy/Detroit	Farm'ton Hills, Mich.	117
976.	Iron Workers Intl.	Washington	117
977.	Cooper Tire & Rubber	Findlay, Ohio	117
978.	Yellow Freight System	Overland Park, Kan.	117
979.	Charter	Jacksonville, Fla.	117
980.	Laborers #253	Jacksonville, Ill.	117
981.	Reliance Group	New York	117
982.	Ill. Hotel/Rest. Empl.	Naperville	117
983.	S. Diego Co. Carp.	San Diego, Calif.	116
984.	Teamsters #83	Richmond, Va.	116
985.	Western Air Lines	Los Angeles	113
986.	Iowa-Ill. G&E	Davenport, Iowa	112
987.	Longview Fibre	Longview, Wash.	111
988.	Foxboro	Foxboro, Mass.	111
989.	Cons. Freightways	Palo Alto, Calif.	110
990.	Manitowoc	Manitowoc, Wis.	110
991.	Sonoma County	Santa Rosa, Calif.	109
992.	Jack Eckerd	Clearwater, Fla.	109
993.	YWCA	New York	109
994.	Kansas City Empl.	Missouri	108
995.	West Point Pepperell	West Point, Ga.	108
996.	S. Calif. Lumber Ind.	Los Angeles	106
997.	East Bay Muni. Utility	Oakland, Calif.	104
998.	Homestake Mining	San Francisco	103
999.	N.Y. Stock Exchange	New York	103
1000.	Shenango Furnace	Pittsburgh	100

On the following pages, *Pensions & Investment Age* presents sketches of the nation's 200 largest pension funds. Included are highlights of news events from 1985 and a list of money managers and key personnel for the Top 100 funds. The allocation of assets for all 200 funds is also presented. All information is © 1986 Crain Communications Inc.

a

etirement Systems of Alabama

	($ millions)
otal assets	4,744
Defined benefit	4,744
mployer contributions	255
enefit payments	203

MONTGOMERY, Ala. — The etirement Systems of Alabama reated a $100 million internally anaged stock index fund modeled n the Standard & Poor's 500 in anuary 1985. It boosted that mount to nearly $175 million in pring.

The $4.744 billion (book value) und also invested $25 million in loating-rate mortgage-backed seurities issued by MGIC Mortgage Marketing Corp.

The fund is managed in-house. It estimated 1985 contributions would total $255 million, an increase of more than 24% from the $205 million contribution in 1984, and benefit payments would be $203 million, an increase of $12 million.

As of Sept. 30, the fund's book value grew 15.8% from the year before, when it had $4.095 billion in pension assets.

The fund has $20 million in GICs, $4.1 million in equity real estate and $210.5 million in mortgages.

The state retirement systems comprise the Teachers Retirement System with $3.23 billion; the Employees Retirement System, $1.47 billion; and the Judicial Retirement Fund, $43 million.

The systems' asset mix was 7.3% stocks, 52.7% bonds, 9.3% cash equivalents, 25.8% mortgage-backed securities, 4.4% mortgages, 0.1% real estate equity and 0.4% GICs.

Key investment personnel are David G. Bronner, chief executive officer; Hunter Reaves, director of fixed income; and Cheryl Duke, director of equities.

State of Alaska Retirement Systems

	($ millions)
Total assets	2,185
Defined benefit	2,185
Employer contributions	197
Benefit payments	86

JUNEAU, Alaska — The State of Alaska Retirement Systems' assets increased 31.4% in the 12 months ended Sept. 30, to $2.185 billion from $1.663 billion. Officials said the jump was due to both investment performance and increased contributions.

Contributions for all of 1985 increased 9.4% to $197 million from 1984's $180 million, while benefit payments increased 19.4% to $86 million from $72 million.

During the year the fund added a real estate manager, Karsten, giving it eight managers in that area.

The fund increased its allocation to equities about 43% and tripled its investments in foreign markets, without changing any managers. Both actions were in response to market conditions. The foreign investments, which total $117 million, expanded to include $36 million in fixed income. The fund also phased out investments in mortgage-backed securities. It has $157 million in real estate equity and $499 million in mortgages.

The retirement systems runs $1.585 billion in-house: $1.364 billion in fixed-income and $221 million in short-term investments. Fixed-income futures are used.

As of Sept. 30, the asset mix was 20.3% stocks, 39.6% bonds, 10.1% cash equivalents, 7.2% real estate equity and 22.8% mortgages.

Equity managers: Fred Alger; Alliance; INVESCO; Lehman; Citibank; Morgan Guaranty.

Real estate managers: Aetna; Hancock; Prudential; Equitable; Security Capital; JMB; Morgan Guaranty; Karsten.

First Pennsylvania Bank is master custodian.

James R. Wilson, Kenneth L. Shaffer and Martin Lentz are state investment officers.

Allied-Signal Inc.

	($ millions)
Total assets	6,000
Defined benefit	4,000
Defined contribution	1,700
Other	300
Employer contributions	na
Benefit payments	na

MORRIS TOWNSHIP, N.J. — The pension funds of Allied Corp. and The Signal Cos. continued to be run in separate master trusts following the 1985 merger of the two companies into Allied-Signal Inc.

Allied-Signal subsequently announced it will spin off 28 business units into a new company, which will have as much as $1.1 billion in pension assets.

As of Sept. 30, Allied-Signal had $6 billion in employee benefit assets: $4 billion in defined benefit assets; $1.7 billion in defined contribution assets; and $300 million in foreign and overseas pension assets.

Of the total, $750 million is managed internally: $200 million in stocks; $400 million in bonds; and $150 million in short-term investments. Some of the fund's venture capital investments also are under in-house management.

The fund has $200 million invested in an indexed equity fund managed by Bankers Trust, and a $1 billion immunized bond portfolio. It has $150 million in international equities and $50 million in international bonds.

About $200 million is in real estate equity, $20 million in oil and gas and $10 million in venture capital.

Its pension asset mix as of Sept. 30 was 46% stocks, 32% bonds, 10% cash equivalents, 7% real estate equity and 5% international equities.

Equity managers: Bankers Trust; BMI Capital; Baron Capital; C-S Capital; Capital Guardian; Chesapeake Capital; Corinthian Capital; Delaware Investment; Thomas J. Herzfeld; Johnson, Valliant & Broadfoot; KR Capital; Kurtz Capital; John A. Levin; Lieber; Lincoln Capital; Lord, Abbett; Lynch & Mayer; Presidio Management; Primecap; Donald Smith; Target Investors; Thomson, Horstmann & Bryant; Verus Capital; Weiss, Peck & Greer; Westport Asset Management.

Bond managers: Mellon Bank; Morgan Guaranty; Solomon Asset Management.

Real estate managers: Aetna; Equitable; John Hancock; Prudential; RREEF; Travelers.

International managers: Arnhold & S. Bleichroeder; Batterymarch-International; Morgan Grenfell.

Options manager: Balch, Hardy & Scheinman.

The fund's master trustees are Northern Trust, State Street Bank, Chase Manhattan and Bank of America.

The key investment officer is

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American Airlines

	($ millions)
Total assets	2,275
Defined benefit	1,382
Defined contribution	853
401(k)	40
Employer contributions	105
Benefit payments	70

FORT WORTH, Texas — American Airlines continued to break new ground in its pension management practices by using three discount brokers to execute a portion of a $50 million program trade in summer.

About 70% of the trade was executed by Salomon Brothers. The other 30% was directed to Charles Schwab, Fidelity Investments Brokerage Services and Abel Noser.

In September, American added balanced managers Barrow, Hanley, Mewhinney & Strauss and Hotchkis & Wiley to its fixed benefit fund. Independence Investment Associates was hired as equity manager. Capital Guardian Trust was hired as equity manager for the American variable plan for pilots.

Tom Stawicki came to American in February as director-trust investments from Rexnord Corp.

Total employee benefit assets increased 19%, to $2.275 billion as of Sept. 30, from $1.912 billion a year ago.

The fund runs $900 million internally: $50 million in equity and $850 million in fixed income.

The approximate asset mix for pension assets as of Sept. 30 was 45% stocks, 40% bonds, 9% cash equivalents, 1% GICs and 5% mortgage-backed securities.

The fund has $850 in dedicated or immunized bonds, $20 million invested in GICs, $50 million in foreign equity, $20 million in foreign fixed income and $100 million in mortgages.

Equity managers: Barrow, Hanley; Hotchkis & Wiley; United Capital; Citicorp; Dewey Square; Capital Guardian; Vilas-Fischer; Atlanta Capital; Independence.

Options manager: Analytic Investments.

Balanced managers: Hotchkis & Wiley; Barrow, Hanley; Brown Brothers Harriman; Penmark; RepublicBank Dallas; Capital Guardian; Vilas-Fischer.

International managers: Morgan Grenfell; Rowe Price-Fleming; N.M. Rothschild.

Master trustee is RepublicBank Dallas. Chase Manhattan is the international custodian.

Key personnel are William F. Quinn, assistant treasurer; Thomas Stawicki, director of trust investments; and Robert J. Chiori, senior analyst-investments.

American Information Technologies Corp.

	($ millions)
Total assets	8,300
Defined benefit	7,400
Thrift or savings	370
401(k)	530
Employer contributions	200
Benefit payments	400

CHICAGO — Ameritech's employee benefit assets rose 18.6% to $8.3 billion as of Sept. 30 from $7 billion a year ago. Defined benefit assets increased 15.6%, to $7.4 billion from $6.4 billion.

Company officials attributed the increase to market performance. The fund swelled even though Ameritech paid out $400 million in benefits in 1985, twice as much as it contributed to the pension plan.

In 1985, Ameritech's pension fund hired its first international and venture capital managers and switched several domestic equity managers.

In international, it added ABD International, IDS International, Capital Guardian, Baring International and First Chicago Investment Advisors. In venture capital, it hired Goldar Thoma, Contennial Fund, Robertson Colman & Stephens and William Blair Venture Partners, among others.

As part of changes made in domestic equity managers inherited from American Telephone & Telegraph Co.'s fund, Ameritech hired Concord Capital, David J. Greene, National City Bank and Sit Associates; it dropped Central National Bank, Harris, Lazard Freres, Fischer Francis Trees & Watts, Scudder Stevens, Babson, Brown, Stein Roe, Equitable, T. Rowe Price, Mathers, National Bank of Detroit and Thorndike.

In July, Ameritech reoptimized the $2.4 billion dedication it set up in late 1984. In addition, it increased its stock-index fund investments to $540 million from $200 million, while dropping its $100 million in GICs.

Its asset mix as of Sept. 30 was 54% stocks, 38% bonds, 1% cash equivalents and 7% real estate equity. Among its assets are $52 million in venture capital, $203 million in foreign stocks and $227 million in foreign fixed income, $540 million in indexed stocks and $2.4 billion in dedicated or immunized bonds.

Equity managers: AmeriTrust; Concord Capital; David J. Green; Delaware Investment Advisors; First Wisconsin; Jennison Associates; Lincoln Capital; Loomis Sayles; Lord Abbett; National City Bank; Rosenberg; Sit Associates; Wells Fargo.

Bond managers: American Fletcher; First Chicago Investment Advisors; Indiana National; National Investment Services.

Real estate manager: AT&T's TREET.

International managers: ABD International; IDS International; Capital Guardian; Baring International; First Chicago.

Venture capital managers: Goldar Thoma; Continental Fund; Robertson Colman & Stephens; William Blair.

401(k) managers: Bankers Trust, INVESCO.

Ameritech's master trustee for its pension fund is Harris Trust & Savings Bank and for its 401(k), Northern Trust.

Overseeing the fund are: Donald W. Phillips, director-investment management; Jim A. Kujaca, manager-investment planning and research; and Ken F. Feld, manager-investment analysis.

American Telephone & Telegraph Co.

	($ millions)
Total assets	24,887
Definod benefit	21,035
Thrift or savings	3,852
Employer contributions	662
Benefit payments	603

NEW YORK — AT&T completed the divestiture of pension assets for the seven new Bell companies in July.

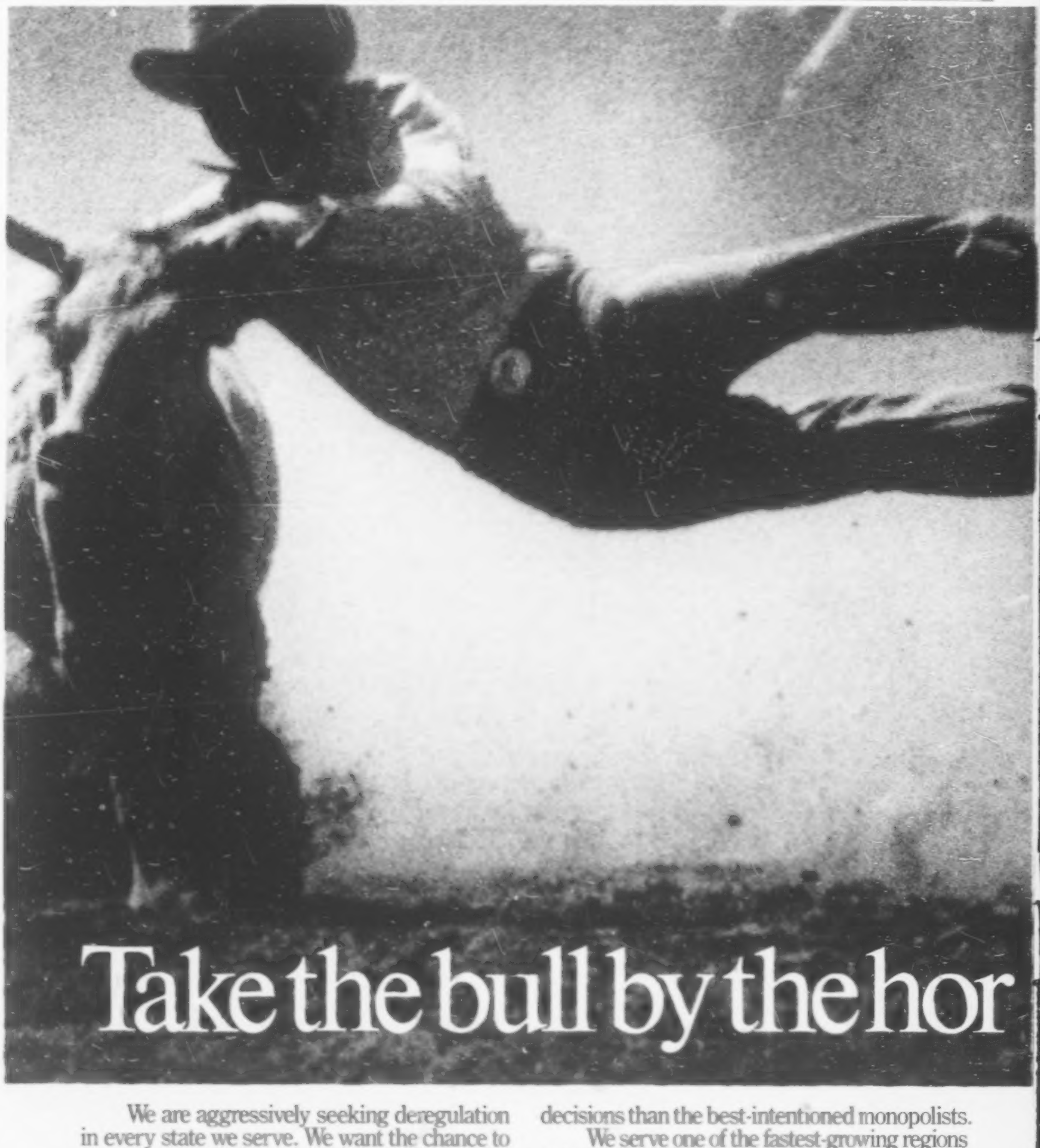
As of Sept. 30, AT&T had $24.887 billion in total employee benefits assets, up 16% from the $21.455 billion post-divestiture estimate it had made the previous year.

Defined benefit plan assets were $21.035 billion, up 16.9% from last year's estimate. Thrift and savings plan assets as of Sept. 30 were $3.852 billion.

During 1985, the AT&T fund, along with General Motors Corp.'s pension plan, reportedly became the first funds to take a direct interest in a large portfolio of existing shopping centers. The two pension funds lent the money to Detroit shopping center magnate A. Alfred Taubman.

AT&T pension officials also planned to start pumping more money into oil and gas investments in preparation for committing up to 2% of its total pension fund to that area by 1989.

It replaced Bankers Trust-Investment Management Group as custodian and record keeper of its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employee savings plan with American Transtech, a Jacksonville, Fla., unit of AT&T.

Employer contributions to the plan in 1985 were estimated at $662 million, while $603 million was expected to be paid out to retirees during the year.

The pension fund has $6.1 billion in an internally run stock index portfolio, and $2.922 billion in indexed bond investments. Foreign equity investments totaled $551 million; venture capital commitments, $290 million; oil and gas ventures, $241 million; and equity real estate, $2.011 billion.

As of Sept. 30, AT&T's asset mix was 53% stocks, 31% bonds, 10% equity real estate, 3% international, 2% venture capital and 1% oil and gas investments.

Managers: Aldrich, Eastman & Waltch; ABD International; Bankers Trust; Batterymarch; Boston Energy Advisors; Boston Co.; Brown Brothers Harriman; Capital Guardian; Chase Investors; Citibank; Coldwell Banker; Corporate Property Investors; Copley Advisors; David L. Babson; Denver Investment; Eastdil; Equitable Investment; Favia, Hill; FNB Atlanta; FNB Chicago; Fidelity International; GT Capital; Goldman, Sachs; Griffin Group; John Hancock; J.W. O'Connor; Heitman; Interfirst Bank of Dallas; Investment Counselors of Maryland; Jennison Associates; Lincoln Capital; Loomis, Sayles; Lord, Abbett; Manufacturers Hanover; Mercantile Trust; Mellon Bank; Morgan Grenfell; Morgan Guaranty Trust; NCNB; Provident Capital; Pacific Investment; Prudential; Rosenberg Capital; RREEF; Standish, Ayer & Wood; State Street Research; Seattle First; Thorndike, Doran, Paine & Lewis; United Capital; U.S. Trust; Wachovia; Wells Fargo Bank; Western Asset.

Overseeing the fund are David P. Feldman, corporate vice president; and Robert E. Angelica and Ronald R. Roessler, directors.

Amoco Corp.

	($ millions)
Total assets	3,540
Defined benefit	1,785
Thrift or savings	1,366
401(k)	181
Other	208
Employer contributions	229
Benefit payments	177

CHICAGO — The employee benefit assets of Amoco Corp., formerly Standard Oil Co. (Indiana), increased 12.5%, to $3.54 billion from $3.144 billion for the year ended Sept. 30. Pension assets alone increased about 9.5%.

Employer contributions increased 9% to $229 million, while benefit payments decreased 26% to $177 million.

During the year, the fund terminated a fixed-income account with Hoisington Asset Management and moved the money in-house.

Of the pension assets, $479 million is managed internally: $331 million in equities, $64 million in fixed income, $23 million in short-term investments and $61 million in other instruments, such as venture capital limited partnerships.

The fund has $138 million in indexed stocks, $112 million invested in foreign markets — $91 million in stocks, $5 million in fixed income and $16 million in other securities — and $94 million in real estate. It uses fixed-income futures.

As of Sept. 30, the pension asset mix was 65% stocks, 10% bonds, 10% cash equivalents, 5% real estate equity, 2% mortgage-backed securities and 8% other, including foreign equities and venture capital.

Equity managers: Chase Manhattan; CMB Investment; Dimensional Fund Advisors; Fidelity Management; Franklin Portfolio; McKenzie Walker; Fayez Sarofim; State Street Research; Forstmann-Leff.

Bond managers: Pacific Investment; Solomon Asset.

Real estate manager: Equitable.

International managers: Ivory & Sime; Fidelity International.

Chase Manhattan is master trustee.

Key personnel overseeing the investment management of the funds are Philipp W. Binzel, assistant treasurer-investments, and John S. Ruey, administrative manager-investments.

Arizona State Retirement System

	($ millions)
Total assets	4,103*
Defined benefit	4,103
Employer contributions	132
Benefit payments	139

*as of June 30, 1985

PHOENIX, Ariz. — The Arizona State Retirement System experienced a 34% increase in assets to $4.103 billion on June 30 from $3.063 billion the previous year. Fund officials point to superior market performance and a total rate of return in excess of 30% as the primary reasons for the dramatic increase.

Arizona hired Duff & Phelps Investment Management Co., Chicago, during the second quarter to run a $378 million portfolio of zero-coupon bonds.

The fund has approximately $523 million invested in indexed equity funds and $191 million in indexed bonds.

Arizona increased its equities commitment to 43% from 33% of assets, and slightly lowered its fixed-income and cash holdings.

The system's asset mix on June 30 was 43% stocks, 41% bonds, 9% real estate equity and 7% mortgages. It includes mortgage-backed securities in bonds.

Balanced managers: Bernstein-Macaulay; Criterion; Fiduciary Trust; Gardner & Preston Moss; INVESCO; Kemper Financial; Wells Fargo.

Bond manager: Duff & Phelps.

Mortgages: Valley National Bank.

Approximately $250 million in short-term instruments is managed internally.

Mellon Bank is the system's custodial bank.

Key personnel are Max Sullivan, director, and Charles Moody, assistant director.

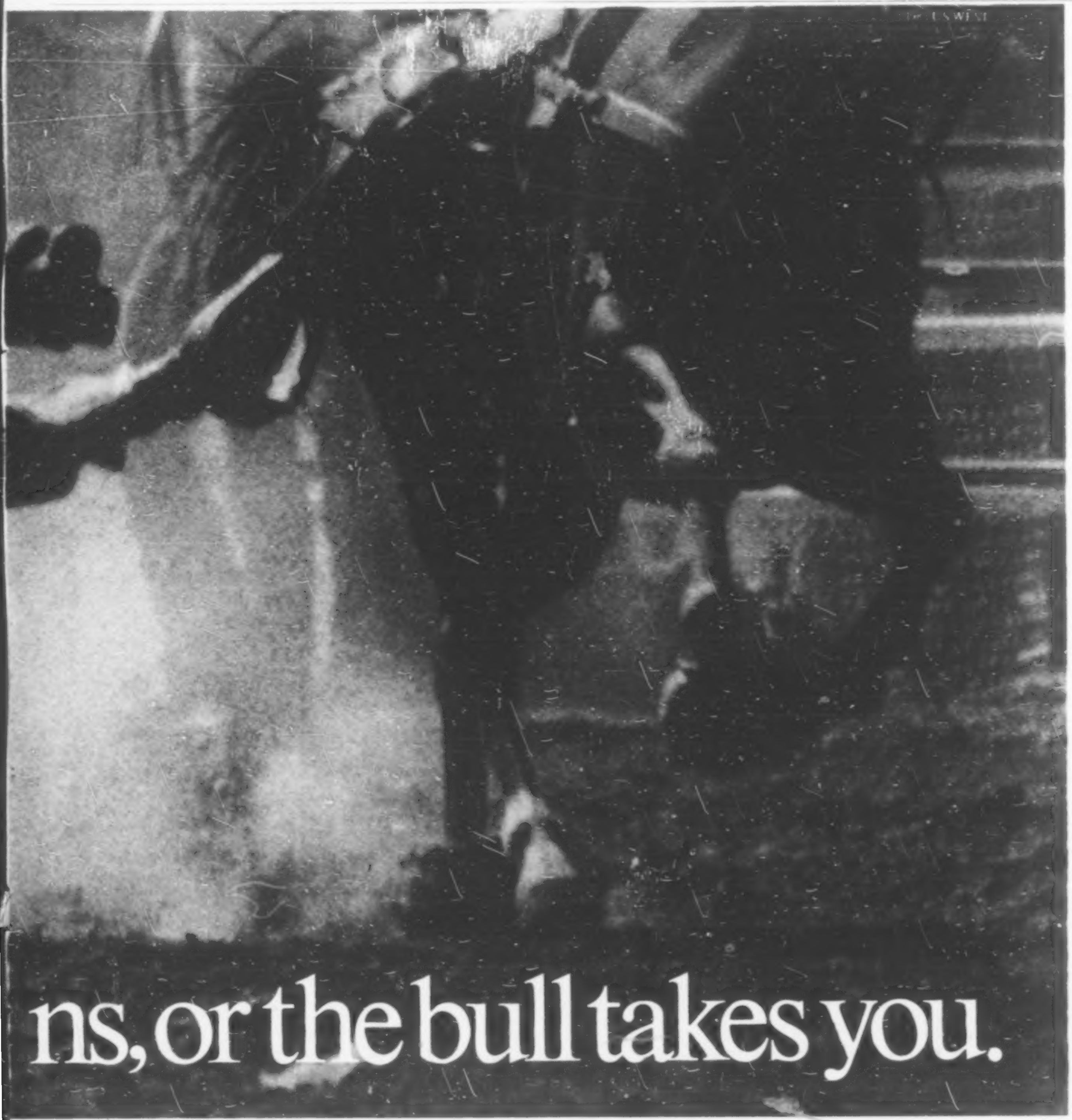
Atlantic Richfield Co.

	($ millions)
Total assets	3,250
Defined benefit	2,200
Profit-sharing	260
401(k)	790
Employer contributions	111
Benefit payments	na

LOS ANGELES — Atlantic Richfield Co. total employee benefit assets increased 14.4% to $3.25 billion, according to recent Money Market Directory figures, from $2.84 billion as of Sept. 30, 1984.

Pension assets alone rose 7.3%, to $2.2 billion from the previously reported $2.05 billion. Another $260 million is in a profit-sharing plan and $790 million is in a 401(k) plan.

Atlantic Richfield executives announced in August that the company would liquidate holdings from its pension plan to meet immediate benefit expenses resulting



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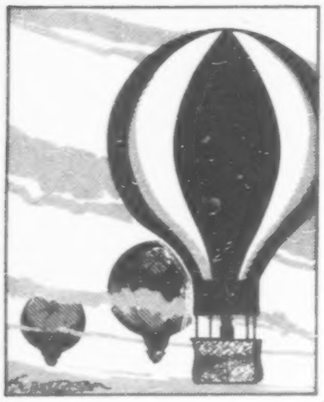

from a company early retirement offer.

Officials said the company would increase its annual pension contribution in 1985 by about $11 million, to $111 million, to cover increased employee benefit liabilities resulting from that offer.

Also during 1985, Howard Ockelmann announced he would retire as investment officer in charge of the pension plan. He was succeeded by E. Kent Damon Jr., formerly vice president of planning and control for Arco Transportation Co.

Managers (according to Money Market Directory): J.P. Morgan; G.T Capital; Fidelity International; Payden & Rygel; Solomon; Merrill Lynch Hubbard; Rowe Price-Fleming; Warburg Investment; Aldrich, Eastman & Waltch; Capital Guardian; TCW Asset; Crocker National Bank; Citicorp; Fiduciary Trust.

b

Bell Atlantic Corp.

	($ millions)
Total assets	8,000
Defined benefit	7,000
Thrift or savings	1,000
Employer contributions	na
Benefit payments	na

PHILADELPHIA — Defined benefit assets at Bell Atlantic Corp. increased 40% in the year ended Sept. 30, to $7 billion from $5 billion, largely because of the final transfer of assets to Bell Atlantic and the other baby Bells from American Telephone & Telegraph Co.

Total employee benefit assets increased 27% to $8 billion as of Sept. 30, from $6.3 billion a year earlier.

Roughly $7 billion was in a defined benefit plan and $1 billion was in a thrift or savings plan.

During 1985, Bell Atlantic took its first look at international investments, reportedly hiring three international equity managers, including Capital Guardian Trust, late in the year.

The company reported it had $1 billion in indexed stocks and $100 million in venture capital.

The last known managers for Bell Atlantic were:

Equity managers: Batterymarch; Alliance; Lord, Abbett; Mercantile Safe Deposit; Pioneering Management; Prudential; Thorndike, Doran, Paine & Lewis; Wellington Management.

Fixed-income managers: Wentworth, Hauser & Violich; Sovran Bank; Pacific Investment Management; Miller, Anderson & Sherrerd; Mercantile Trust; Brown Brothers Harriman; Harris Trust; Putnam Advisory.

Balanced managers: AmeriTrust; Bankers Trust; Equitable; IDS Advisory; State Street Research.

Mellon Bank is the master trustee for the fund.

During the year, William O. Albertini was named secretary-treasurer for Bell Atlantic. Mr. Albertini and Edward Rennie, director-trust investment management, share investment management responsibility.

BellSouth Corp.

	($ millions)
Total assets	6,983
Defined benefit	6,150
Thrift or savings	833
Employer contributions	256
Benefit payments	259

ATLANTA — In 1985, BellSouth Corp. received its final infusion of assets as a result of the divestiture of American Telephone & Telegraph Co. Total employee benefit assets increased 26.9% to $6.983 billion as of Sept. 30, up from $5.5 billion the previous year.

The $833 million in savings plan assets includes 401(k) plan assets. The company did not disclose its asset mix.

The BellSouth fund received $256 million in employer contributions in 1985 and paid out $259 million in benefits.

BellSouth invests a portion of its assets in GICs, but did not disclose the amount or the names of the managers.

BellSouth has several investment managers that were not listed in last year's profile. They are: Brown Brothers Harriman; Dimensional Fund Advisors; First Kentucky Co.; First Union National Bank; Jennison; Loomis, Sayles; State Street Bank; and The Vanguard Group.

Managers: AmSouth; AT&T Divestiture Trust; Bankers Trust; Batterymarch; Citizens and Southern National Bank; First Tennessee Investment Management; NCNB; Pacific Investment; South Carolina National; and TREET.

The master trustee for the pension fund is Wachovia Bank & Trust. The master trustee for the savings plans is Bankers Trust.

Kincaid Patterson, director-trust assets, oversees the investment of the assets.

Bethlehem Steel Corp.

	($ millions)
Total assets	2,601
Defined benefit	2,601
Employer contributions	na
Benefit payments	450

BETHLEHEM, Pa. — Bethlehem Steel Corp. froze its underfunded defined benefit plan for non-represented, salaried employees and established a defined contribution plan effective Jan. 1. The move is expected to save the company $30 million annually.

At the time of the freeze, the plan had an unfunded liability of $209 million.

Bethlehem Steel's pension assets increased about 11.3% during the year ended Sept. 30, to $2.601 billion.

In 1985, benefits paid to retirees were an estimated $450 million. Employer contributions for 1985 were not available.

The company manages 99% of its pension assets internally. Of that amount, $798 million is in equities, $1.327 billion is bonds, $77 million is short term and $373 million is in other asset classes, including GICs, mortgage-backed securities and mortgages.

Bethlehem has $26 million in international equities; $1.327 billion in dedicated bond funds; $57 million in GICs; $73 million in mortgage-backed securities; and $380 million in mortgages.

The asset mix as of Sept. 30 was 32% stocks, 51% bonds, 3% cash, 2% GICs, 3% mortgage-backed securities, and 9% in owed and unpaid employer contributions.

International managers: J.P. Morgan; Putnam International.

Morgan Guaranty is master trustee for the plan.

Walter W. Buckley Jr. is pension fund manager.

An in-depth look at investment advisers runs May 19.

Boeing Co.

	($ millions)
Total assets	5,509
Defined benefit	3,534
401(k)	1,975
Employer contributions	73
Benefit payments	132

SEATTLE — Boeing Co. employee benefit assets totaled $5.509 billion as of Sept. 30, an increase of 11.3% from the $4.948 billion reported the previous year.

The fund received an estimated $73 million in employer contributions, and paid out $132 million in benefits.

Early in 1985, it was announced Boeing had hired Cabanne Smith Associates as an equity manager.

As of Sept. 30, the asset mix for the pension plan was 48.4% stocks, 25.9% bonds, 13.7% cash equivalents, 10.3% real estate equity, 1.1% in mortgage-backed securities and 0.6% in other assets.

Equity managers: Alliance; Cabanne Smith; Chase Investors; Sit Investment; First Interstate Bank of Washington; IDS Advisory; INVESCO; Cashman Farrell; Capital Guardian; Rosenberg Capital; Century Capital; Citicorp; Sirach/Flynn Elvins.

Bond managers: Robert C. Brown; Seattle First National Bank; W.R. Huff; McKee Investment Management; PIMCO; Morgan Guaranty.

Real estate managers: Security Pacific; Aetna; Prudential; First Chicago.

Chase Manhattan Bank is the master trustee.

Key investment personnel are Gary Bland, director-trust investments and investor relations, and Elizabeth A. Marcoux, manager-trust investments.

c

California Public Employees' Retirement System

	($ millions)
Total assets	29,166
Defined benefit	29,166
Employer contributions	2,000
Benefit payments	1,300

SACRAMENTO, Calif. — The California Public Employees' Retirement System's pension assets totaled $29.166 billion as of Sept. 30, a 28.4% increase from the $22.717 billion reported the previous year.

During 1985, Greta E. Marshall signed a three-year contract as investment manager of the retirement system. She had been president of BayBanks Investment Management, Boston.

The fund has an estimated $5 billion in indexed stocks, $1.636 billion in real estate equity and $8.731 in mortgages.

As of Sept. 30, the asset mix for the system was 30% stocks, 31.2% bonds, 3.7% cash equivalents, 5.5% real estate equity, 8.8% mortgages and 20.8% mortgage-backed securities.

All assets are managed internally, although two equity and three real estate managers serve in advisory or consulting roles.

Equity advisers: Bankers Trust, Citibank.

Real estate advisers: F.I.A. Associates, Equitable Real Estate Investment and LaSalle Advisors.

Custodian for the system is the state treasurer's office.

Ms. Marshall, and Walton Williams, principal investment officer, are the key investment management officials.

California State Teachers' Retirement System

	($ millions)
Total assets	15,100
Defined benefit	15,100
Employer contributions	622
Benefit payments	360

SACRAMENTO, Calif. — The California State Teachers' Retirement System pension assets totaled $15.1 billion as of Sept. 30, an increase of 22.8% from the $12.3 billion reported a year earlier.

In 1985, trustees hired a permanent chief investment officer, Thomas E. Flanigan, and a new chief executive officer, Larry Kurmel.

Four equity managers also were hired: Barrow, Hanley, Mewhinney & Strauss; Provident Capital; Trinity; Wilmington Capital.

As of Sept. 30, the asset mix was 31.1% stocks, 57.3% bonds, 7.2% cash equivalents, 2.5% real estate equity and 1.9% mortgages.

The fund has $2.2 billion in indexed stocks; $329 million in real estate equity and $800 million in mortgages.

Equity managers: Alliance; Barrow Hanley; Dimensional Fund Advisors; Provident Capital; TCW; Trinity; Wells Fargo Investment Advisors; Wilmington.

Bond managers: Loomis, Sayles; Manufacturers Hanover; Miller, Anderson & Sherrerd; Pacific Investment; Scudder, Stevens; Stein Roe & Farnham; T. Rowe Price.

Real estate manager: Eastdil.

Mr. Flanigan is the key investment management official.

University of California Retirement System

	($ millions)
Total assets	5,700
Defined benefit	5,200
401(k)	500
Employer contributions	na
Benefit payments	na

BERKELEY, Calif. — The University of California Retirement System's employee benefit assets totaled $5.7 billion as of Sept. 30, a 35.7% increase from the $4.2 billion reported the previous year.

Much of the increase came as a result of returns from investments in the stock market. The fund had 82% of its assets in equities as of Sept. 30. It also had 12.6% in bonds, 2.8% in cash equivalents, 0.2% in mortgages, 0.4% in mortgage-backed securities and 2% in venture capital.

All assets are managed in-house. The fund has $10 million in mortgages and $91 million in venture capital.

Key personnel overseeing the investment management are Herbert N. Gordon, treasurer, and Patricia A. Small, associate treasurer.

Caterpillar Tractor Co.

	($ millions)
Total assets	3,048
Defined benefit	2,699
Defined contribution	285
Profit-sharing	2
401(k)	41
Other	21
Employer contributions	na
Benefit payments	na

PEORIA, Ill. — Caterpillar Trac-

Profile statistics at a glance

	1985 ($ billions)	1984 ($ billions)
Top 1,000 assets	$1073.0	$861.6
Top 200 assets	812.4	641.4
Top 100 assets	675.6	581.8
Top 50 assets	523.7	399.8
Top 25 assets	377.6	286.1
Top 200 defined benefit	648.5	576.9
Top 200 defined contribution	75.9	NA
Top 200 profit-sharing	12.8	NA
Top 200 thrift	31.9	NA
Top 200 401(k)	16.2	NA

Top 200 fund statistics

	1985 ($ billions)	1984 ($ billions)
Assets managed in-house	$339.1	$263.8
Stock index funds	75.6	30.1
Bond index funds	10.3	NA
Equity real estate	23.3	15.7
Mortgages	36.8	16.0
Mortgage-backed securities	30.8	18.8
GICs	12.0	11.7
Overseas	11.7	7.7
Venture capital	2.6	NA
Dedication/immunization	23.0	17.2
Oil & gas	0.6	NA
Contributions paid	42.4	30.2
Benefits paid	31.1	27.7

Number of top 200 funds using alternative investments

	1985	1984
Stock index funds	77	53
Bond index funds	18	NA
GICs	62	78
Overseas investments	78	77
Real estate equity	121	138
Mortgage-backed securities	67	64
Mortgages	70	NA
Options (stock)	49	59
Stock index futures	45	NA
Fixed-income futures	38	NA
Venture capital	63	56
Oil & gas	17	26
Dedicated or immunized funds	42	39
Options (fixed income)	18	NA
Internal	117	128

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tor Co.'s employee benefit assets increased 9.6% in the year ended Sept. 30, to $3.048 billion from $2.782 billion. About $21 million of the assets are in an employee stock ownership plan.

Caterpillar set up an $890 million dedicated bond portfolio during the year. Chase Investors and J.P. Morgan manage the portfolio, while Aetna Life & Casualty, using a system developed by Leland O'Brien Rubinstein, employs a futures strategy called dynamic hedging to lock in the actuarially assumed rate of return on the dedicated fund and increase equity exposure as interest rates decline.

The fund uses stock options, stock index futures and fixed-income futures. It has $198 million in real estate equity and about $160 million in international equity. The commitment to oil and gas rose 168%, to $26 million from $9.7 million a year earlier. A spokeswoman for the fund said there was no specific reason for the increased investment.

Equity managers: Chase Investors; Citicorp; Equitable Investment Management; Institutional Capital; Jennison; J.P. Morgan; Oppenheimer; State Street Research and Management; Thorndike, Doran, Paine & Lewis.

Bond managers: Chase Investors; J.P. Morgan.

Real estate managers: Aetna; First Chicago; LaSalle Street Fund; Travelers.

International managers: Baring International; Fidelity International.

Northern Trust is master trustee.

Fred V. Dickinson is manager-risk management and employee benefit funds; V.A. Kane is benefit funds coordinator.

Chevron Corp.

	($ millions)
Total assets	6,003*
Defined benefit	3,751
Defined contribution	828
Profit-sharing	1,424
Employer contributions	105
Benefit payments	551

P&I Age estimate

SAN FRANCISCO — The combined employee benefit assets of Chevron Corp. and Gulf Oil Corp., which merged in 1985, rose 13.8% to $6 billion in the 12 months ended Sept. 30., according to a *Pensions & Investment Age* estimate based on Dec. 31, 1984 figures provided by Chevron.

The contributions of $105 million and benefit payments of $551 million listed above are for 1984.

The Chevron and Gulf funds are run in separate master trusts. A merger of the funds is planned for early in 1986.

Both funds made several manager changes during the year. Chevron dropped Bankers Trust and Crocker Investment Management as equity managers. It also phased out most of its commitment to the Crocker Real Estate Equity Fund.

Gulf terminated MacKay-Shields as an equity manager and hired Mellon Capital Management as a balanced manager. It no longer uses Mellon Capital for real estate.

As of Sept. 30, the approximate asset mix for the combined trusts was 44.5% stocks, 33.6% bonds, 2% cash equivalents, 5.5% real estate equity, 13.7% GICs and 0.7% mortgages.

The funds have $593.3 million in a dedicated bond portfolio, $456.2 million in GICs, $181.7 million in real estate equity and $24.1 million in mortgages. Fixed-income futures are used.

Equity managers (Chevron): Sanford C. Bernstein; Equitable Investment Management; Provident; Rosenberg Capital; Stralem.

(Gulf): Avatar; Cambiar; Estabrook; Jennison Associates; Lynch & Mayer; Mellon Capital; Putnam Advisory; Rollert & Sullivan; Rosenberg Management; Winchester.

Bond managers (Chevron): Degnan & Gillespie; Equitable; Pacific Investment; STW Fixed Income Management.

(Gulf): Pacific Investment; Mellon Bank; Mellon Capital; State Street Research.

Real estate managers (Chevron): Prudential; RREEF; Travelers Account R.

Bankers Trust is Chevron's master trustee; Mellon Bank, Gulf's.

Key personnel are Sellers Stough, vice president-finance; G.K. Carter, comptroller; and R.G. Williamson, deputy comptroller.

Chicago Teachers' Retirement Fund

	($ millions)
Total assets	2,074*
Defined benefit	2,074
Employer contributions	175
Benefit payments	100

*as of Aug. 31, 1985

CHICAGO — Assets of the Pub

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lic School Teachers' Pension and Retirement Fund of Chicago increased 24.3%, to $2.074 billion as of Aug. 31 from $1.668 billion as of Sept. 30, 1984.

Employer contributions increased 70%, going to $175 million in 1985 from 1984's $103 million. Benefit payments remained the same: $100 million.

The fund is managed internally; Capital Supervisors advises on equities and fixed income.

The approximate asset mix as of Aug. 31 was 48.9% stocks, 44.7% bonds and 6.4% cash equivalents. The fund invests in mortgages, real estate equity and oil and gas, but specific amounts were not available.

Key investment personnel are James F. Ward, executive director, and A. Lee Thurow, president of Capital Supervisors.

Chrysler Corp.

	($ millions)
Total assets	2,497
Defined benefit	2,346
Thrift or savings	151
Employer contributions	570
Benefit payments	369

DETROIT — Chrysler Corp.'s employee benefit assets rose 14.2% to $2.497 billion as of Sept. 30 from $2.186 billion the previous year. Defined benefit assets increased 38.3%, to $2.346 billion from $1.696 billion.

The company attributed the increase in pension assets to market performance of its bond portfolios.

Its contributions rose 25% to $570 million in 1985 from $456 million the previous year, mainly because of a new labor contract. Benefit payments remained about the same, with $369 million in 1985, up slightly from $360 million the previous year.

As part of a labor agreement, the company is ending its employee stock ownership plan and distributing its $560 million in assets to employees. As a result, its total savings assets fell to $151 million in 1985 from $490 million.

During 1985, Chrysler hired Pacific Asset Management, its first equity manager since putting most of its pension assets into dedicated bond funds in 1984. It assigned Pacific Asset $10 million to run in a special equity portfolio.

Its asset mix as of Sept. 30 was 71% bonds, 24% cash equivalents, 4% real estate equity and less than 1% in stocks. Among its assets are $1.9 billion in dedicated portfolios, which consist of bonds and some cash equivalents, and $79 million in real estate equity.

Chrysler uses stock and bond options and stock-index and fixed-income futures.

Equity manager: Pacific Asset Management.

Bond managers: Manufacturers Hanover; Irving Trust; J.P. Morgan Investment Management; National Bank of Detroit; Trust Co. of the West; Bankers Trust.

Real estate managers: Prudential Insurance; RREEF; Eastdil; JMB.

401(k) managers: Massachusetts Mutual Life (GICs); Merrill Lynch (equity and fixed income).

Chrysler manages $570 million in pension assets in-house, consisting of $120 million in fixed income, $430 million in short-term investments and $20 million in annuities.

Its master trustee is Bankers Trust.

Overseeing the fund are: Frederick W. Zuckerman, vice president and treasurer; Joseph L. Arpin, assistant treasurer-banking; and Russell P. Flynn, manager-pension fund administration.

Public Employees Retirement Association of Colorado

	($ millions)
Total assets	5,024
Defined benefit	5,024
Employer contributions	355
Benefit payments	180

DENVER — Total tax-exempt assets for the fund increased by $916 million, or 22.2%, to $5.024 billion as of Sept. 30, from $4.108 billion a year earlier.

In June, the fund hired Nancy Williams as a deputy executive director.

Employer contributions were about $355 million; benefits paid out to retirees were about $180 million.

The asset mix as of Sept. 30 was 45% stocks; 30% bonds; 8% cash equivalents; 2% real estate equity; 2% GICs; and 13% mortgages.

The fund invested $103 million in GICs; $15 million in venture capital; $100 million in real estate equity; and $800 million in mortgages. The fund uses stock options.

The state treasurer is custodian of the fund. Norman Jaskol is deputy executive director of the fund.

The State of Connecticut Trust Funds

	($ millions)
Total assets	3,684
Defined benefit	3,684
Employer contributions	450
Benefit payments	295

HARTFORD, Conn. — The State of Connecticut Trust Funds grew 23.7% in the 12 months ended Sept. 30, to $3.684 billion from $2.979 billion a year earlier.

The trust fund recently completed a major restructuring of its equity portfolio. This involved hiring 10 new managers and dropping all but two of its seven former managers.

The fund added Aetna; Bankers Trust; Concord Capital; Franklin Portfolio Associates; Glickenhaus; Oppenheimer Capital; Provident Capital; Phoenix Investment Counsel; Roanoke; Siebel Capital.

It retained Capital Guardian Trust and Wright Investors and dropped David L. Babson, Bernstein-Macaulay, Connecticut Bank & Trust, Connecticut National Bank and CIGNA.

It also added real estate eq managers Morgan Bank; J McMahan; Heitman; JMB/Stat Aldrich; RREEF; Public Storag

Equity managers: Aetna; B ers Trust; Capital Guardian; cord Capital; Franklin Portf Glickenhaus; Oppenheimer C tal; Provident Capital; Phoenix vestment Counsel; Roanoke; Si Wright Investors'.

Bond managers: Scudder, vens & Clark; Lehman; Loo Sayles; Bear, Stearns.

Real estate managers: Ae CIGNA; Phoenix Mutual; Tra ers; Morgan Bank; John McMa Heitman; JMB/State St. Aldr RREEF; Public Storage.

The fund manages $1.331 bi

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-house: $468 million in mortgage curities; $630 million in fixed inome; and $233 in short-term serities.

As of Sept. 30, it had $74 million GICs, $413 million in real estate quity and $398 million in mortges.

The asset mix was 36.1% stocks, .5% bonds, 6.3% cash equivalents, .2% in real estate equity, 2% in ICs and 10.9% in mortgageacked securities.

Key personnel are Frank cDermott, deputy treasurer-instments; Terry Helming, investent officer-fixed; Harold Johnn, investment officer-short-term; d Robert Staley, investment offir-real estate.

d

elta Air Lines Inc.

	($ millions)
tal assets	2,250
Defined benefit	2,000
Thrift or savings	250
Employer contributions	na
enefit payments	na

ATLANTA — During 1985, elta Air Lines invested in a venre capital limited partnership run Welsh, Carson, Anderson & owe.

The fund also is invested in a orstmann, Little leveraged buvt pool.

New England Mutual, Travelers d Vanguard, which had run Cs for Delta, no longer are emoyed in that capacity.

According to the 1986 Money arket Directory, McKenzie, alker handles stocks, bonds, GICs d international investments for e fund.

The fund has about 25 managers; organ Grenfell and Globe Finlay n international equities.

As of Sept. 30, employee benefit sets rose to $2.25 billion, up 25% om a year earlier when assets ere $1.8 billion.

Pension assets alone rose 25% to billion, up from $1.6 billion in 84.

The pension asset mix was 50% ocks, 30% bonds, 15% cash equivants, 5% GICs.

In addition, $35 million was insted in venture capital and $90 llion in foreign stocks. The fund es stock options.

Harris Trust is the master ustee.

Overseeing the fund's investents are Frank Chew, treasurer; mes Taylor, assistant treasurervestment management; and mes Mathews, supervisor-investent management.

etroit Retirement Systems

	($ millions)
tal assets	2,469*
Defined benefit	2,469
nployer contributions	152
enefit payments	154

of June 30, 1985

DETROIT — The Detroit Retireent Systems, which comprise the eneral Retirement System and e Police & Fire Retirement Sysms, recorded a 22.2% increase in nployee benefit assets for the ar ended June 30, to $2.469 llion from $2.021 billion a year rlier.

In spring, the $1.2 billion general stem assigned $310 million to five lanced managers: Oppenheimer pital; The Boston Co.; Harbor pital; Marquette Capital Manement; and Munder Capital Manement.

Funding for the move came from rminating Alliance Capital, recing Comerica Bank-Detroit's count and cash.

Oppenheimer and Marquette already handled equity for the Police & Fire Retirement System.

Employer contributions for the year ended June 30 were $152 million; benefits payments for the same period totaled $154 million.

The systems manage $142 million in short-term assets internally.

Of the $2.5 billion in pension assets, $331 million is in GICs; $2 million in international securities, split evenly between equity and fixed income; $20.6 million real estate equity; $230 million in mortgages; and $6.6 million in venture capital.

The asset mix of the fund was 20% stocks, 29% bonds, 11% cash equivalents, 1% real estate equity, 14% GICs, 10% mortgages, 9% mortgage-backed securities and 6% construction loans.

Equity managers: Loomis, Sayles; Scudder, Stevens & Clark; Comerica.

Bond managers: Putnam Capital; Loomis, Sayles; Scudder, Stevens & Clark.

Balanced managers: Oppenheimer; Marquette; Harbor; Boston Co.; Munder.

Real estate managers: Mellon Real Estate; Mortgage Investors Advisory Group.

The custodian for the general fund is Comerica Bank-Detroit, and for the police and fire fund, Manufacturers National Bank-Detroit.

Fred Murphy, executive secretary, and Del Berryhill, administrative assistant, oversee investment management of the funds.

Largest corporate funds
($ millions)

Fund	Assets
General Motors	$ 26,300
AT&T	24,887
General Electric Co.	15,812
IBM Corp.	13,939
Ford Motor Co.	11,000
E.I. du Pont de Nemours & Co.	9,665
NYNEX Corp.	9,447
Ameritech	8,300
Exxon Corp.	8,008
U.S. Steel Corp.	8,000
Bell Atlantic Corp.	8,000
BellSouth Corp.	6,983
GTE Corp.	6,740
Pacific Telesis Group	6,316
Chevron Corp.	6,004
Allied-Signal Inc.	6,000
U S WEST	5,675
Eastman Kodak	5,582
Boeing Co.	5,509
United Technologies Corp.	5,500
Sears, Roebuck & Co.	5,481
Rockwell International	5,218
Shell Oil Co.	4,979
McDonnell Douglas Corp.	4,914
Southwestern Bell Corp.	4,616
Mobil Oil Corp.	4,553
Total	**$227,428**

Largest public funds
($ millions)

Fund	Assets
California Public Employees	$ 29,166
New York State Common Fund	25,997
N.Y.C. Retirement Systems	25,063
New York State Teachers' Retirement	15,303
California State Teachers	15,100
New Jersey Division of Investment	12,494
Texas Teachers	11,270
Wisconsin Investment Board	10,800
Ohio Public Employees	10,760
Michigan State Employees	10,516
Ohio State Teachers Retirement	10,178
Florida Dept. of Administration	8,911
North Carolina Employees	8,773
Pennsylvania Public School	7,825
Minnesota State Board	6,800
Washington State Board	6,749
Georgia State Systems	6,053
L.A. County Employees	5,747
Pennsylvania State Employees	5,418
Oregon Public Employees	5,100
Colorado Public Employees	5,024
Maryland State System	5,020
South Carolina System	4,980
Alabama Retirement Systems	4,744
Virginia Supplemental System	4,509
Total	**$262,300**

E.I. du Pont de Nemours & Co. Inc.

	($ millions)
Total assets	9,665
Defined benefit	7,841
Thrift or savings	1,709
401(k)	17
Other	98
Employer contributions	269
Benefit payments	533

WILMINGTON, Del. — The E.I. du Pont de Nemours & Co. Inc. pension plan set up an internally managed, $1.215 billion indexed stock portfolio Jan. 1, 1985.

The retirement plan also invested $17 million in an unspecified real estate mutual fund. The rest of the fund is run in-house.

Employer contributions to all plans dropped to $269 million in 1985 from $390 million the year before, a drop of 31%. The drop was due to the boosting of the actuarial assumption to 9% from 7.5%. Benefit payments, however, increased to $533 million from $400 million.

As of Sept. 30, total employee benefit assets grew 19%, to $9.665 billion from $8.12 billion. Pension assets increased 17.4% from the year before, growing to $7.841 billion from $6.678 billion.

The retirement plan uses stock-index and fixed-income futures and bond options. It also had $404 million invested in foreign equities, up from $272 million in 1984.

The asset mix for the pension fund was 68% stocks, 11% bonds, 10% cash equivalents and 11% mortgage-backed securities, as of Sept. 30.

Wilmington Trust is master trustee.

Savings plan assets grew 18.5%; they reached $1.7 billion as of Sept. 30, up from $1.44 billion the year before. A 401(k) plan feature added in 1984 accounted for $17 million.

Outside managers for the savings plan are Bankers Trust for equities and Equitable Life for fixed-income.

Overseeing investments are David F. Marvin, vice president-pension fund investment department, and A.H. Nehrling Jr., director-employee benefits.

e

Eastman Kodak Co.

	($ millions)
Total assets	5,582*
Defined benefit	4,511
401(k)	1,071
Employer contributions	141
Benefit payments	210

*P&I Age estimate

NEW YORK — Based on Eastman Kodak's reported total of $4.995 billion in employee benefit assets as of Dec. 31, 1984, *Pensions & Investment Age* estimates the funds totaled $5.582 billion as of Sept. 30, 1985. That represents a 9.4% increase from last year's estimate of $5.1 billion.

In 1984, Eastman Kodak contributed $141 million to its pension plan and paid $210 million in benefits.

The company invests an estimated $223 million in equity real estate, $1.23 billion in annuities and $781 million in GICs.

Eastman Kodak also invests in indexed stock funds, foreign equity, oil and gas and venture capital, but did not disclose any amounts.

As of Dec. 31, 1984, the asset mix was 56% stocks, 2% cash equivalents, 4% real estate equity, 14% GICs, 22% annuities and 2% combined in oil and gas and venture capital.

Equity managers: American National Bank & Trust; Analytic; Batterymarch; Fidelity Management Trust; Kemper; McKenzie Walker; J.P. Morgan; Neuberger & Berman; T. Rowe Price; Rogers, Casey & Barksdale; Sanford Bernstein; State Street Research; Templeton; TCW; Value Line; and Waddell & Reed.

Real estate managers: Aetna; Equitable; Goldman, Sachs; JMB; and RREEF.

GIC managers: John Hancock and Metropolitan.

Venture capital manager: Horsley, Keogh & Associates.

Private investments: Cawley, Gillespie & Associates.

Boston Safe Deposit & Trust Co. is the fund's master trustee.

Key personnel overseeing the investment of the fund are Russell L. Olson, director-pension investments, and A. Duff Lewis Jr., pension investment coordinator.

Exxon Corp.

	($ millions)
Total assets	8,008
Defined benefit	4,627
Thrift or savings	3,161
401(k)	220
Employer contributions	113
Benefit payments	300

NEW YORK — Exxon Corp.'s total employee benefits assets increased 8.4% in the year ended Sept. 30, to $8.008 from $7.388 billion. Defined benefit plan assets climbed 3.2% to $4.627 billion from $4.484 billion. The well-funded status of the plan enabled Exxon to reduce employer contributions by about 74% to $114 million in 1985 from $437 million in 1984. Benefit payments increased slightly, to $300 million from $280 million.

The company manages $2.305 billion in pension assets internally: $1.868 billion in stocks; $251 million in bonds; and $186 million in short-term instruments.

Exxon has $1.326 billion of its pension assets in an indexed stock portfolio; $226 million is invested in international equities; $610 million is committed to equity real estate; $60 million to venture capital; and $41 million to oil and gas.

Exxon also uses stock options and stock index futures.

The asset mix of the pension fund as of Sept. 30 was 58% stocks, 11% bonds, 13% equity real estate, 4% cash equivalents, 12% annuities and 2% venture capital and oil and gas combined.

Equity managers: Citibank; First City National Bank; RepublicBank Dallas; Wells Fargo Investment Advisors; Morgan Grenfell; State Street Bank.

Bond managers: Scudder, Stevens & Clark; State Street Research.

Real estate managers: Prudential Asset; Equitable Life; Aetna Life; Corporate Property Investors; InterFirst Bank Dallas.

Annuities: Prudential Insurance; Equitable; Travelers Insurance; John Hancock Life; and Aetna.

Irving Trust is master trustee.

Key investment personnel are C.W. Williams, assistant treasurer; T.M. Castagna, manager-benefits financing; and M.F. Hoben, manager-trust investments.

f

Florida State Board of Administration

	($ millions)
Total assets	8,911
Defined benefit	8,911
Employer contributions	891
Benefit payments	416

TALLAHASSEE, Fla. — Assets of the Florida State Board of Administration rose 26.8% to $8.911 billion as of Sept. 30 from $7.029 billion at the same time a year earlier.

The board's contributions increased 14.2% to $891 million in 1985 from $780 million in 1984. Its benefit payments increased 13.7% to $416 million in 1985 from $366 million the year earlier.

In 1985, the board switched a stock-index manager, dropping Bankers Trust and hiring Wells Fargo. Also, it switched an active equity manager, hiring Prudential Asset Management and releasing Bernstein-Macaulay. The board dropped one of its three options overwrite managers, Travelers' Investment Management.

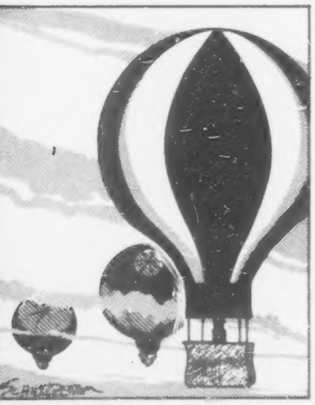
Also, the board did not consummate the hiring of two domestic equity managers, Bessemer Trust and Hutton Capital, and two international fixed-income managers, BAIMCO and Morgan Grenfell.

Its asset allocation as of Sept. 30 was 44.9% stocks, 27.8% bonds, 5.2% cash equivalents, 6.9% real estate equity, 15.2% mortgage-backed securities. Among its assets are $88 million in foreign-denominated fixed income; $1.1 billion is in a domestic stock-index fund and $612 million in real estate equity.

The board runs $4.643 billion inhouse, consisting of $1.992 billion in equities, $2.191 billion in fixed income and $460 million in short-term investments.

It uses stock options and stock index futures.

Equity managers: Wells Fargo; Westridge; INVESCO; Lazard Freres; Eagle; Stein Roe & Farnham; Alliance; Barrow Hanley Me-



whinney & Strauss; Southeastern; Fred Alger; Pioneer; Delaware Investment; Batterymarch; Pruden-ial Asset.

Bond managers: Alliance; Thorndike Doran Paine & Lewis.

Real estate managers: Equita-le, Aetna; FNB Boston; John Han-ock; First Chicago Investment Advisors; Prudential; Goldman, Sachs; LaSalle.

Options managers: Bear, Stearns; Balch Hardy & Schein-nan.

Its custodian is Citibank.

Overseeing the fund are E.J. Yelton, executive director, and Thomas Fox, deputy executive director-investments.

Ford Motor Co.

	($ millions)
Total assets	11,000
Defined benefit	9,500
Defined contribution	1,500
Employer contributions	650
Benefit payments	700

DEARBORN, Mich. — Ford Motor Co. increased its allocation to GICs by 175% to $1.1 billion in 1985 from $400 million in 1984. Company officials would not comment on the increase.

Ford's total employee benefit assets increased by 18.3% during the year ended Sept. 30, to $11 billion from $9.3 billion a year earlier. The $1.5 billion in defined contribution assets are split between the company's 401(k) and TRASOP plans.

In 1985, Kenneth C. Merrill was named head of pension fund investments, replacing Robert C. White who retired April 1.

Earlier in 1985, the company hired one investment manager — PRIMECAP — and released two — Harris Trust & Savings Bank and Rollert & Sullivan.

For its defined benefit plan, the company reported $650 million in employer contributions and $700 million in benefits paid to retirees for 1985.

In addition to the $1.1 billion in GICs, the fund's passive investments include-$1.6 billion in indexed stocks and $300 million in dedicated or immunized bonds.

The fund manages $600 in fixed-income internally. It also has invested $250 million in foreign equity, $80 million in foreign fixed income, $50 million in venture capital, $25 million in oil and gas and $70 million in real estate equity.

The fund also reported using fixed-income futures.

The approximate asset mix of the fund as of Sept. 30 was 61% stocks, 14% bonds, 7% cash, 1% real estate equity, 12% GICs and 5% mortgage-backed securities.

Equity managers: Alliance; Capital Guardian; Chase Investors; Citicorp; Dewey Square; Fidelity Management Trust; GeoCapital; Hathaway Associates; Manufacturers National Bank Detroit; Mitchell Hutchins; J.P. Morgan; PRIMECAP; RepublicBank Dallas; Sarofim Trust; Siebel Capital; Sit Investment; and State Street Research.

Fixed-income managers: Capital Guardian; Citicorp; Dewey Square; J.P. Morgan; T. Rowe Price; Sarofim Trust; State Street Research.

Manufacturers National Bank of Detroit is the fund's master trustee.

Key personnel overseeing the investment management of the fund are K.C. Merrill, executive director-corporate planning and trust management, and M.E. Maertens, manager-trust investment.

g

General Dynamics Corp.

	($ millions)
Total assets	03,300
Defined benefit	2,100
Defined contribution	1,200
Employer contributions	180
Benefit payments	60

NEW YORK — General Dynamics experienced a $600 million, or 22.2%, growth in employee benefit assets in the 12 months ended Sept. 30, to $3.3 billion from $2.7 billion.

The fund made no changes to its investment management lineup during the period, according to Charles Walbrandt, a staff vice president.

Equity managers: Alliance; Anderson, Hoagland; Campbell Advisors; Citibank; Miller, Anderson & Sherrerd; Neuberger & Berman; Provident Investment Counsel; Lindner Management; Lazard Freres; A.M. Kailing; Jundt/Capen; First Pacific Advisors; Equitable; Delaware Investment; Frank Russell Trust; Seibel Capital; Sit Investment; TCW Asset Management.

Bond managers: BAIMCO; Centerre; Chase Investors; Discount Corp. of New York; Bankers Trust.

GIC managers: Aetna; Equitable; Hancock; Metropolitan; Mutual Benefit; Travelers.

The company also runs about $600 million in-house in fixed income, a 500% increase from 1984. It reduced its GIC investment to $200 million from $400 million.

The asset mix as of Sept. 30 was 31% stocks, 46% bonds, 13% cash equivalents and 10% GICs.

The master trustee is Chase Manhattan.

John P. Maguire is vice president and secretary. Mr. Walbrandt is staff vice president-employee benefit trust investments.

General Electric Co.

	($ millions)
Total assets	15,812
Defined benefit	12,866
Thrift or savings	2,726
Other	220
Employer contributions	700
Benefit payments	470

STAMFORD, Conn. — The acquisition of RCA Corp. by General Electric Co., pending as 1985 drew to a close, caused widespread speculation about whether the pension funds would merge. The effect of the merger on the two funds is expected to be resolved in 1986.

In April 1985, GE set up an $824 million dedicated portfolio, enabling the company to cut its pension contribution $28 million and the present value of its liabilities $580 million.

In 1985, officials of the pension trust revealed they had reduced equity real estate exposure 20% to 25% during an 18-month period in the course of restructuring that portfolio in response to a sluggish, uncertain market. Fund officials have been restructuring its mortgage commitment to get out of non-participating mortgages.

GE was among the pension funds that committed $178 million to a venture capital fund formed by Welsh, Carson, Anderson & Stowe. That brought its venture cap commitment to $313 million.

Total employee benefit assets increased 18.5% to $15.812 billion in the year ended Sept. 30, while defined benefit assets increased 20% to $12.866 billion.

GE runs essentially all of its pension assets internally: $5.4 billion in equities; $4 billion in fixed income; $316 million in short-term instruments; and $2.7 billion in other types of investments, including real estate, private placements and venture capital.

About $1.6 billion is in an indexed stock portfolio. Another $1.078 billion is dedicated or immunized, while $247 million is invested in GICs.

The GE fund has $460 million invested internationally, $362 million of which is in equities. Those assets are run by several outside managers, but GE would not identify them.

In addition, it has $478 million in real estate equity and $1.23 billion to mortgages.

GE also uses stock options and stock index and fixed-income futures.

The asset mix as of Sept. 30 was 46% stocks, 30% bonds, 4% cash equivalents, 4% equity real estate, 2% GICs, 10% mortgages and 4% mortgage-backed securities.

Chase Manhattan Bank is GE's master trustee.

D.F. Frey, vice president-investments, oversees the plan along with investment managers A.S. Bahr and F.X. Tansey.

General Motors Corp.

	($ millions)
Total assets	26,300
Defined benefit	22,900
Thrift or savings	3,000
Other	400
Employer contributions	2,488
Benefit payments	na

NEW YORK — General Motors Corp. hired five new managers in 1985: Barrow, Hanley, Mewhinney & Strauss; Batterymarch; Fidelity Management Trust; Lazard Freres Asset Management; and Travelers Hill Samuel.

The company had $26.3 billion in employee benefit assets as of Sept. 30, 1985, an increase of 15.3% from the $22.799 billion *Pensions & Investment Age* estimated it had a year earlier.

Defined benefit plan assets grew 12.9% to $22.9 billion from the estimated $20.275 billion. GM's contribution of about $2.5 billion is as of Dec. 31, 1984.

As part of its international investment activities, General Motors reportedly committed at least $150 million to a fixed-income account with a global mandate in late 1985. Some thought the move was a shorter-term currency play rather than a long-term international commitment.

Aside from international, General Motors has assets committed to real estate investments, venture capital and oil and gas ventures. It also runs a small percentage of assets internally. The company declined to reveal specific numbers.

Managers: ABD International; Aetna; Aldrich, Eastman & Waltch; American National Bank and Trust; AmeriTrust; Bank of America; Bankers Trust; Baring International; Barrow, Hanley, Mewhinney & Strauss; Batterymarch; The Boston Co.; The Boston Co. Real Estate Council; Capital Guardian Trust; Chase Manhattan; Citibank; Daiwa International; Dimensional Fund Advisors; Fidelity International; Fidelity Management; FNB Boston; FNB Chicago; G.T. Capital; Harris Trust & Savings Bank; InterFirst Bank of Dallas; INVESCO; Jennison Associates; Kleinwort Benson International; Landauer Advisors; Lazard Freres; Lincoln Capital; Mellon Bank; Metropolitan Life; Morgan Grenfell; Morgan Guaranty; National Bank of Detroit; Nomura Capital; Prudential Asset Management; Rowe Price-Fleming International; N.M. Rothschild International; Schroder Capital; TCW Asset Management; Travelers Hill Samuel; United Capital Management; Weiss, Peck & Greer; Wells Fargo Bank.

Master trustees are Bankers Trust, Mellon and Chase Manhattan.

W. Gordon Binns Jr. is chief investment funds officer and R. Charles Tschampion is director-investment manager relations.

Georgia State Retirement Systems

	($ millions)
Total assets	6,053
Defined benefit	6,053
Employer contributions	445
Benefit payments	278

ATLANTA — Total assets for the combined Employee Retirement System and Teachers' Retirement System increased 28.2% to $6.053 billion as of Sept. 30, from $4.723 billion a year earlier.

The funds are managed in-house with equity firms serving in an advisory capacity.

Equity advisers: Citizens & Southern (teachers' fund only); FNB Atlanta (employees' fund only); Trusco Capital Management; INVESCO; Thorndike, Doran, Paine & Lewis.

Largest union funds

($ millions)

Fund	Assets
Teamsters, Western Conference	$ 5,929
Teamsters Central States SE & SW	5,775
United Mine Workers Assoc.	3,938
Electrical Workers IBEW Dist. 10	1,648
Boilermakers and Blacksmiths	1,604
Bakery & Conf. Union & Industry	1,317
International Union of Oper. Engineers	1,241
I.A.M. National Pension Fund	959
Total	**$22,411**

Largest miscellaneous funds

($ millions)

Fund	Assets
TIAA-CREF	$ 40,000
University of California	5,700
United Nations Joint Staff	4,354
United Methodist Pension Fund	1,945
Illinois St. University Retirement	1,886
Tennessee Valley Authority	1,676
Southern Baptist Church Annuity Board	1,600
National Rural Electric Coop. Assoc.	1,475
World Bank	1,461
Presbyterian Church -Bd. of Pensions	1,104
Episcopal Church	1,010
Total	**$62,211**

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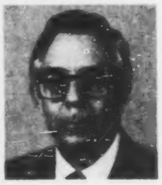
Senior Vice President
Shields Asset Management, Inc., White Plains, NY



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Samuel M. Thompson, CEBS
Manager, Securities Sales
USAA Investment Management Company, San Antonio, TX

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There was $3 million invested in real estate equity and $36 million in mortgages.

The asset mix as of Sept. 30 was 37% stocks; 54% bonds; 5% cash equivalents; 1% mortgages; and 3% mortgage-backed securities.

Citizens & Southern is the custodian for the teachers' fund, FNB Atlanta is custodian for the employees' fund.

Key personnel are Graham Lynch, director-division of investment services; C.W. Cary, assistant director; and Nancy Boedy, bond portfolio manager.

Goodyear Tire & Rubber

	($ millions)
otal assets	2,123
Defined benefit	2,028
Defined contribution	30
401(k)	65
Employer contributions	85
Benefit payments	135

AKRON, Ohio — The Goodyear Tire & Rubber Co. pension fund dded Northern Trust company as ts master trustee during the year. The fund also replaced some of its balanced managers with equity managers, but a spokesman would ot comment on specific changes.

During the year, Oren G. Shaffer, vice president and treaurer, replaced Donald Kronenburger.

Total employee benefit assets for he year ended Sept. 30 increased 4.5% to $2.123 billion from $1.854 illion.

Total employer contributions to he pension fund in 1985 rose 18%, o $85 million from $72 million in 984. About $135 million was paid ut to retirees, up 11.5% from $121 nillion in 1984.

The fund has $175 million in tock index funds. Roughly $46 nillion is held in foreign equities hrough commitments to foreign ommingled funds of Prudential nsurance and J.P. Morgan.

Real estate equity holdings toaled $168.4 million and there was 68.4 million invested in mortgages uring the past year.

The approximate asset mix as of ept. 30 was: 56.7% equities, 22.3% onds, 4.1% cash equivalents, 8.3% eal estate equity, 5.2% annuities nd 3.4% mortgages.

Equity managers: Bankers rust; Citicorp; Equitable Life; avia, Hill; J.P. Morgan; National ity Bank of Cleveland; Prudential nsurance; State Street Bank; Conord Capital; Trust Co. of the West; illon, Read; United Capital; Pilrim, Baxter, Hoyt and Greig; icholas.

Bond managers: Equitable Life, .P. Morgan Investment, National ank of Detroit, Prudential Insurnce, and Desai Capital Manageent.

Real estate: Equitable Life, J.P. Morgan Investment and Prudential nsurance.

GICs: Metropolitan Life and Prudential Insurance.

Annuities: Equitable Life, Metopolitan Life, Prudential Insurnce, and The Travelers.

Key personnel are James R. Glass, group executive vice presient; Mr. Shaffer, vice president nd treasurer; and Richard E. Galoway, assistant treasurer.

GTE Corp.

	($ millions)
otal assets	6,740
Defined benefit	6,000
Thrift or savings	740
mployer contributions	300
enefit payments	183

STAMFORD, Conn. — GTE orp. enjoyed a $1.84 billion inrease in its pension fund assets in he 12 months ended Sept. 30, a 7.6% jump.

The remarkable growth experinced by the fund in 1985 follows a oor 1984 during which the fund rew by only 2%.

It was another year of employee urnover, with David Seidel replacing Richard Klemm as vice president-pension fund management. Mr. Klemm took the position in 1984.

The fund dropped 17 managers from its previous stable of 55 managers and hired six.

Those dropped were: Bartow McLeod International; Boston Co.; Century Capital; Dean Witter Reynolds Intercapital; Hambrecht and Quist; Hathaway Associates; Hoisington; Manufacturers Hanover; Marine Trust; Morgan Stanley; Neville, Rodie & Shaw; T. Rowe Price; Putnam Advisory; Roley, Nichols; Sovran Bank; Warburg-Pincus; and Wentworth Hauser Violich.

Those hired were: Geewax, Terker; Investment Reserves; Winchester Capital; Manufacturers National; Chase Investors; and Oppenheimer & Co.

GTE's fund now has 44 investment management firms.

The fund runs $1.111 billion in-house; $1.04 billion in fixed income and $71 million in equity.

The asset mix of the pension fund as of Sept. 30 was stocks, 67%; bonds, 22.6%; cash equivalents, 9%; real estate equity, 1%; and 0.4% mortgage-backed securities.

The fund employs both stock options and stock index futures. It had $430 in indexed stocks; $240 million in indexed bonds; $602 million invested in foreign equities and $65 million in foreign fixed income; $73 million in venture capital; $45 million in oil and gas; and $60 million in real estate equity.

Equity managers: Bankers Trust; Baring International; BMI Capital; Cashman, Farrell; Citibank; Concord Capital; Eagle Management; Fidelity International; First Manhattan; First Pacific; Franklin Portfolio; Frontier Capital; Geewax, Terker; General American Advisers; GeoCapital Corp.; Grantham, Mayo, Van Otterloo; G.T. Capital; Hellman, Jordan; Hotchkis & Wiley; Hutton Capital; Investment Reserves; Johnson, Valliant; Morgan Grenfell; Morgan Guaranty; Oppenheimer & Co.; Pacific Financial Research; Pioneering Management; PRIMECAP; Provident Investment Counsel; Rowe Price-Fleming; Schafer Capital; Trust Co. of the West; Trustee & Investors; Wertheim-Philippe International; Winchester Capital.

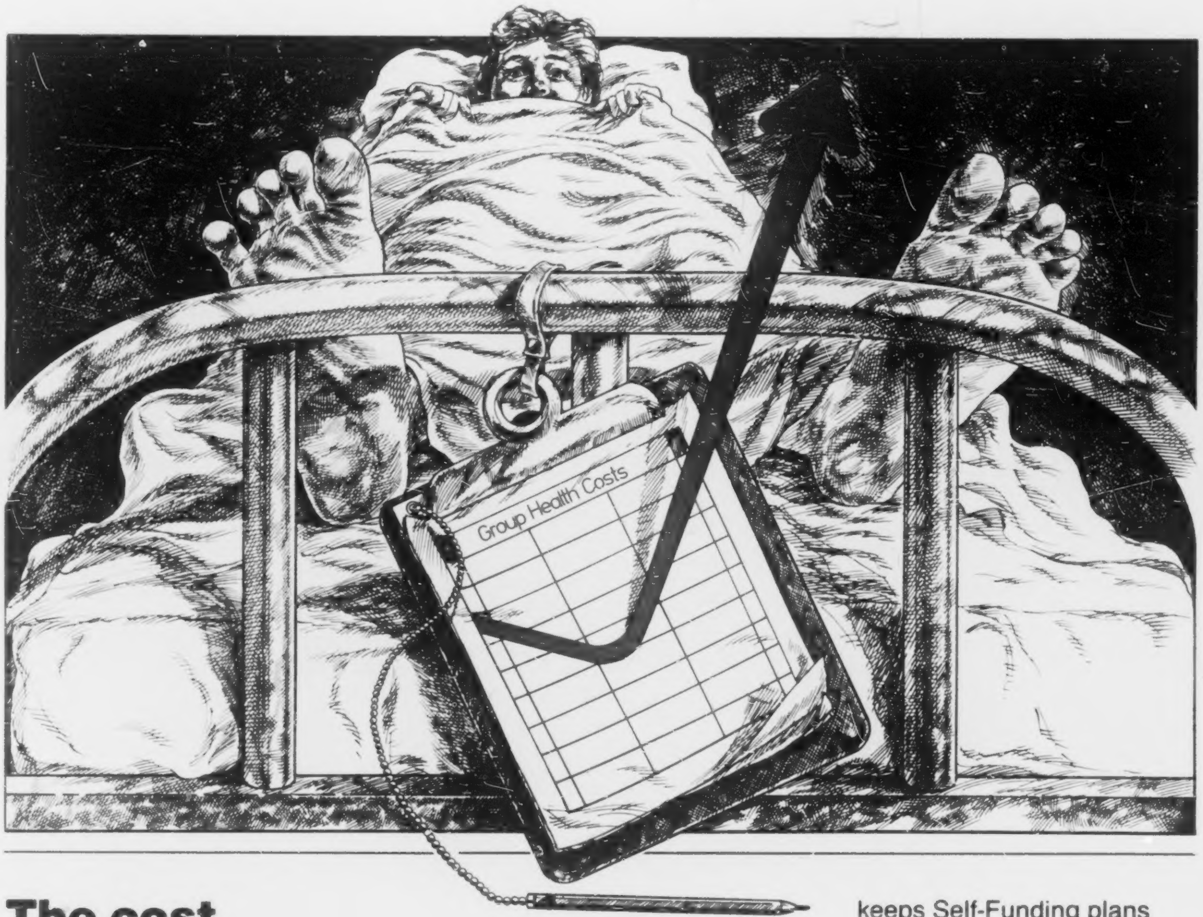
Fixed-income managers: Beutel, Goodman International; Endowment Management; Morgan Grenfell; Pacific Investment· Solomon Asset.

Real estate managers: Citibank; Manufacturers National Bank; Morgan Guaranty; State Street Bank.

Other managers: Chase Investors; Fayez Sarofim.

Bankers Trust is the master trustee.

Key personnel are John B. Car-



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roll, president of GTE Investment Management Corp. and David A. Seidel, vice president-pension fund management at GTE Investment.

h

Employees' Retirement System of Hawaii

	($ millions)
Total assets	2,374*
Defined benefit	2,374
Employer contributions	165
Benefit payments	132

*as of June 30, 1985

HONOLULU — The Employees' Retirement System of Hawaii pension assets totaled $2.374 billion as of June 30, a 7.9% increase from the $2.2 billion reported a year earlier.

In addition to increasing assets, the fund changed it allocation, increasing its equity assets by seven percentage points, and hired some new equity managers in 1985.

They were: Alliance Capital; Atalanta/Sosnoff; INVESCO; and Barrow, Hanley, Mewhinney & Strauss.

The fund dropped Eagle Management and Scudder, Stevens & Clark as equity managers.

Benefit payments for the fund are expected to increase 48.3% for 1985 to $132 million from $89 million in 1984. At the same time, employer contributions dropped slightly, to $165 million from $169 million.

The fund manages $778 million in pension assets internally, $400 million in residential mortgages and $378 million in commercial mortgages.

The fund has $130 million in indexed stocks; $142 million committed to GICs; $125 million invested in foreign equity; $19 million in real estate equity; and $394 million in mortgages.

The fund's pension asset mix as of June 30 was 27% stocks, 35% bonds, 7% cash equivalents, 6% GICs, 17% mortgages and 8% international and indexed assets.

Equity managers: Alliance; Atalanta/Sosnoff; INVESCO; Barrow, Hanley, Mewhinney & Strauss; Delaware Investment Advisors; Loomis, Sayles; Bernstein-Macaulay.

Bond managers: Lehman Management; Pacific Investment; Scudder, Stevens; Wentworth, Hauser and Violich; Fayez Sarofim.

Real estate managers: Aetna; Metropolitan; Connecticut General.

International managers: Nomura Capital; Daiwa International.

Index manager: Mellon Capital.

Irving Trust is the master custodian.

Key personnel overseeing investments are: Stanley Siu, executive secretary, and David Shimabukuro, assistant secretary.

Hughes Aircraft Co.

	($ millions)
Total assets	3,000
Defined benefit	2,000
401(k)	1,000
Employer contributions	na
Benefit payments	na

CULVER CITY, Calif. — Hughes Aircraft Co.'s employee benefit assets totaled $3 billion as of Sept. 30, an increase of 10.2% from the $2,722 million reported the previous year. Defined benefit assets fell 1.2%, to $2 billion from $2.024 billion.

The asset mix for the pension fund was 59% stocks, 4% bonds, 18% cash equivalents, 7% real estate equity, 6% GICs, 4% venture capital, 1% international and 1% oil and gas, according to recent data from the Money Market Directory.

Managers: Alliance Capital; Capital Guardian; Coldwell Banker; Dillon, Read; Eberstadt; Forstmann-Leff; Frontier; G.T. Capital; Hagler, Mastrovita; Jennison Associates; MacKay-Shields; McKenzie, Walker Investment; Neuberger & Berman; T. Rowe Price; Reich & Tang; Rollert & Sullivan; Rosenberg Capital Management; RREEF; Scudder Stevens & Clark; TCW Asset Management; Bank of America; Rowe Price Fleming International; PRIMECAP Management; Kurtz Capital Management; Bankers Trust Investment; Andron, Cechettini & Associates, according to Money Market Directory.

Bankers Trust is the master trustee.

Key personnel involved in overseeing the investment management of assets are T.V. Kweene, senior vice president-finance; and W. Allen Reed, president-Hughes Investment Management Co.

The use of leasing as corporate financing tool will be examined April 14.

i

IBM Corp.

	($ millions)
Total assets	13,939
Defined benefit	13,139
401(k)	800
Employer contributions	630
Benefit payments	206

STAMFORD, Conn. — IBM Corp. added Alliance Capital and existing bond manager Jennison Associates to its equity manager roster in 1985. It dropped Capital Guardian; Hathaway & Associates; and Lord, Abbett.

The company's total employee benefit assets grew 27.6% for the year ended Sept. 30 to $13.939 billion from $10.918 billion.

IBM increased its internally run portfolio by almost 50% during the year ended Sept. 30, to $5.9 billion from $4 billion.

The fund invests in international, real estate, venture capital, stock and bond options and stock index and fixed-income futures. Company officials would not reveal specific figures or the asset mix.

Equity managers: Alliance; Jennison; Bankers Trust; Citibank; Concord Capital; Cole, Yeager & Wood; Delaware Investment Advisors; Dimensional Fund Advisors; G.T. Capital; Fidelity International; Franklin Portfolio; John Hancock Venture Capital; Lombard-Odier International; Morgan Guaranty; PM Portfolio Management; Rowe Price-Fleming International; Solomon Asset Management; State Street Research & Management; TCW Asset Management; T. Rowe Price; Wellington Management.

Bond managers: Jennison Associates; Fischer, Francis, Trees & Watts.

Real estate managers: Prudential; RREEF; Equitable.

Chase Manhattan Bank is master trustee.

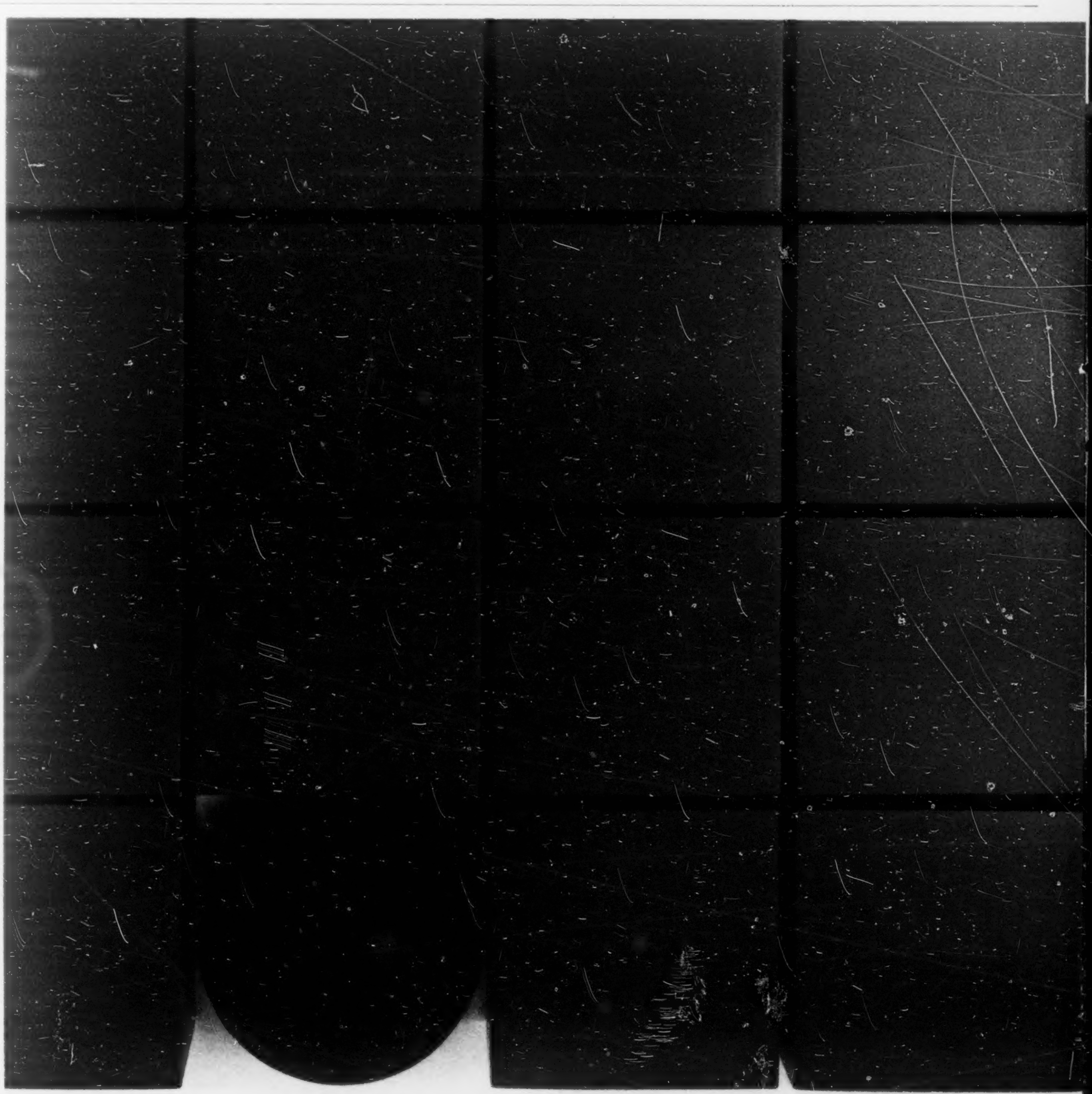
Officials overseeing the fund are B.E. Langton, assistant treasurer; W.V. Hoyt, director-investment strategy; and R.E. Shultz, director of U.S. retirement funds.

Illinois Municipal Retirement Fund

	($ millions)
Total assets	2,318
Defined benefit	2,318
Employer contributions	118
Benefit payments	106

CHICAGO — During 1985, the Illinois Municipal Retirement Fund made its first moves into equity real estate and venture capital.

With a total commitment of $66 million, the pension plan selected open-end commingled real estate funds managed by Security Capital Real Estate, Prudential Asset Management and First Chicago Investment Advisors, and closed-end funds with LaSalle Advisors and



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In venture capital, its $2.3 million commitment was split between the Centennial Fund and Oxford Venture Fund.

During 1985, Jack Claes became president of the fund when Marvin Lapicola's term ended. Mr. Lapicola still serves on the board.

The fund had $2.318 billion in assets as of Sept. 30, an increase of almost 20% from the $1.932 billion reported a year earlier. Its employer contributions were $118 for 1985, with benefit payouts of $106 million.

The asset mix as of Sept. 30 was 38.6% stocks, 51.4% bonds (including some mortgage-backed securities), 7.1% cash equivalents, 2.8% real estate equity and 0.1% venture capital.

The fund manages $45 million internally, all in short-term investments. It also has $99.5 million in indexed stocks.

Equity managers: American National Bank; Batterymarch; Dillon Read; Dimensional Fund Advisors; Fidelity Management; MacKay-Shields.

Bond managers: Criterion; MHIC.

Real estate managers: First Chicago; LaSalle; Prudential; Security Capital; TCW.

Venture capital managers: Centennial Fund; Oxford Venture Fund.

Continental Illinois is the fund's custodian.

Key investment personnel are Mr. Claes; Robert L. Cusma, executive director; and Hiroshige Mori, investment manager.

Illinois Teachers' Retirement System

	($ millions)
Total assets	4,474
Defined benefit	4,474
Employer contributions	225
Benefit payments	315

SPRINGFIELD, Ill. — Assets of the Teachers' Retirement System of the State of Illinois totaled $4.474 billion as of Sept. 30, an 18.1% increase from $3.788 billion a year earlier.

The fund received $225 million in contributions in 1985, a 5% increase from 1984's contribution of $214 million, and paid out $315 million in benefits, the same as the previous year.

During the year, the Illinois teachers hired equity manager Ariel Capital, giving it $1 million; and placed $100 million in a stock index fund managed by American National Bank.

The fund has $22 million in international equities, $10 million in venture capital and $100 million in real estate equity.

The asset mix as of Sept. 30 was 40% stocks, 33% bonds, 10% cash equivalents, 2% real estate equities and 15% mortgage-backed securities.

Harris Trust & Savings Bank is the fund's master trustee.

The fund uses bond options and stock and fixed-income futures.

Key personnel involved in investment management are Samuel W. Anderson, executive director, and Charles F. Hofer, investment officer.

Iowa Public Employees' Retirement System

	($ millions)
Total assets	2,636
Defined benefit	2,636
Employer contributions	113
Benefit payments	108

DES MOINES, Iowa — Assets of the Iowa Public Employees' Retirement System rose 21.3% to $2.636 billion in 1985.

The system restructured its investment manager lineup during the year to take a more aggressive stance in the equity and bond markets.

For equities, it hired Batterymarch, Wellington, Provident, Rosenberg Capital, Prudential Asset Management, IDS Advisory Group and Value Investors. It terminated Alliance Capital. Capital Guardian emerged from the restructuring intact.

For fixed income, it hired Criterion, J.P. Morgan, Loomis, Sayles and Miller, Anderson & Sherrerd. It reduced the allocation to The Boston Co.

Employer contributions in 1985 amounted to $113 million, $3 million more than in 1984. Employees also contribute to the system, putting in about $75 million. Benefit payments amounted to $108 million, an increase of $8 million.

As of Sept. 30, the approximate asset mix was 26% stocks, 50% bonds, 13% mortgage-backed securities and 11% cash equivalents. Later in the year, trustees agreed to make the fund's first commitments to venture capital, real estate and leveraged buy-outs.

Short-term cash investments of $286 million are managed in-house.

Equity managers: Batterymarch; Wellington; Provident Capital; Rosenberg Capital; Prudential; IDS Advisory; Value Investors; Capital Guardian.

Bond managers: Criterion; J.P. Morgan; Loomis, Sayles; Miller, Anderson & Sherrerd; The Boston Co.

Morgan Guaranty is custodian.

Key investment personnel are Maurice Baringer, administrator; Dennis Jacobs, deputy administrator; and Larry Thompson, investment officer.

k

Kansas Public Employees' Retirement System

	($ millions)
Total assets	2,216
Defined benefit	2,216
Employer contributions	93
Benefit payments	109

TOPEKA, Kan. — The Kansas Public Employees' Retirement System's assets rose 18.5% to $2.216 billion as of Sept. 30 from $1.87 billion the year before.

Employer contributions declined 9% in 1985 to $93 million from $102 million the previous year.

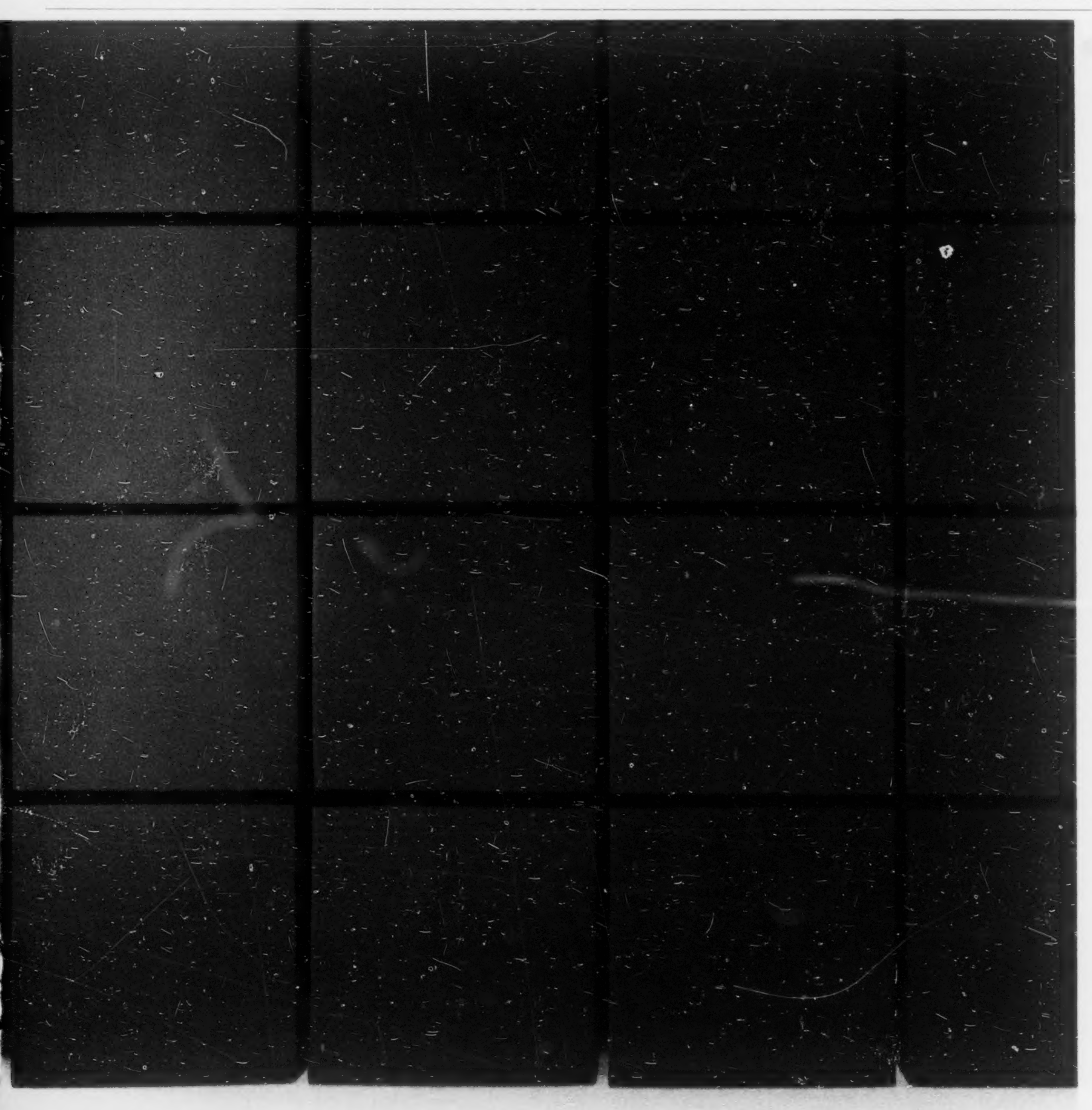
Benefits payments rose 41.5% to $109 million in 1985 from $77 million the year earlier.

The fund committed about 10%, or $200 million, of its assets to real estate, hiring J.W. O'Connor to place the new investments. As of the end of 1985, O'Connor hadn't made any investments.

The fund also added an equity manager, Market Research & Management, assigning it $20 million.

The fund's asset mix as of Sept. 30 was 35.2% stocks, 28.4% bonds, 33.4% cash equivalents, 0.5% real estate equity, 2.5% mortgages.

Among its assets, it has $69.7 million in real estate the fund runs in-house, consisting of $11.7 million in equity and $58 million in mortgages. It also runs another $263 million in-house in bonds and short-term investments.



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The fund uses stock and bond options and stock-index and fixed-income futures.

Equity managers: Capital Supervisors; Investment & Capital Management; Provident Investment Counsel; Pilgrim Baxter Hoyt & Greig; Reimer & Koger; Market Research & Management.

Bond managers: Robert C. Brown; Pacific Investment Management; Investment & Management Group; Reimer & Koger.

Real estate manager: J.W. O'Connor.

Its master custodian is Commerce Bank & Trust, Topeka.

Overseeing the fund are: Michael Russell, chairman, board of trustees; Marshall Crowther, executive secretary; and Ron Bleidissel, chief accountant.

The use of mutual funds in pension plans is the focus of a special report May 12.

1

Lockheed Corp.

	($ millions)
Total assets	4,373*
Defined benefit	3,137
401(k)	1,236
Employer contributions	na
Benefit payments	na

*as of Dec. 31, 1984

BURBANK, Calif. — Lockheed Corp.'s employee benefit assets totaled $4.373 billion as of Dec. 31, 1984, an increase of 6.6% from the $4.102 billion reported as of Sept. 30, 1984.

Pension assets alone rose 6%, to $3.137 billion from $2.959 billion for the same three-month period. Lockheed also reported $1.236 billion in a 401(k) plan.

Defined benefit plan managers: Alliance; Anhalt/O'Connell; Bankers Trust; Batterymarch; Bernstein-Macaulay; Capital Guardian; Century Capital; Chase Investors; Citicorp Investment Management; Delaware Investment Advisers; First Interstate Bank of Washington; Forstmann-Leff; Thomas L. Karsten Associates; Lombard Odier International; Mellon Bank; J.P. Morgan Investment; Royal Trust; Security Pacific; Smith Barney, Harris Upham; TCW Asset Management; Western Asset Management.

Defined contribution managers: Bankers Trust; Delaware; Forstmann-Leff; Manufacturers Hanover; Sarofim Trust; TCW; Wertheim.

Bankers Trust is the master trustee.

The key person in charge of overseeing investments is George C. Weintz, investment counsel.

Los Angeles County Employees' Retirement Association

	($ millions)
Total assets	5,747*
Defined benefit	5,576
401(k)	11
Other	160
Employer contributions	330
Benefit payments	312

*as of June 30, 1985

LOS ANGELES — The Los Angeles County Employees' Retirement Association employee benefit assets totaled almost $5.747 billion as of June 30, an increase of almost 30.8% from the $4.394 billion reported Sept. 30, 1984.

Of the total, $5.576 billion was in the defined benefit plan, $11.4 million was in the new 401(k) plan and $159.2 million was in a 457 savings plan. The latter two are administered directly by Los Angeles County, not the association.

In November, the county hired five real estate managers, committing at least $100 million. The new managers are John McMahan Associates; Prudential Asset Management; Heitman; Goldman, Sachs; and Security Capital Real Estate.

Of the $5.576 billion administered by the retirement association, $983 million is run in-house: $521 million in fixed income; $194 million in short-term investments; and $268 million in other investments.

The association has $10 million in real estate equity and $268 million in mortgages.

For fiscal year 1985-'86, the plan received $330 million in contributions and paid out $312 million in benefits.

As of June 30, the asset mix for the defined benefit plan was 25.05% stocks, 34.75% bonds, 14.42% cash equivalents, 5.55% mortgages, 20.02% mortgage-backed securities and 0.21% in equity real estate.

Equity managers: Massachusetts Financial Services; Capital

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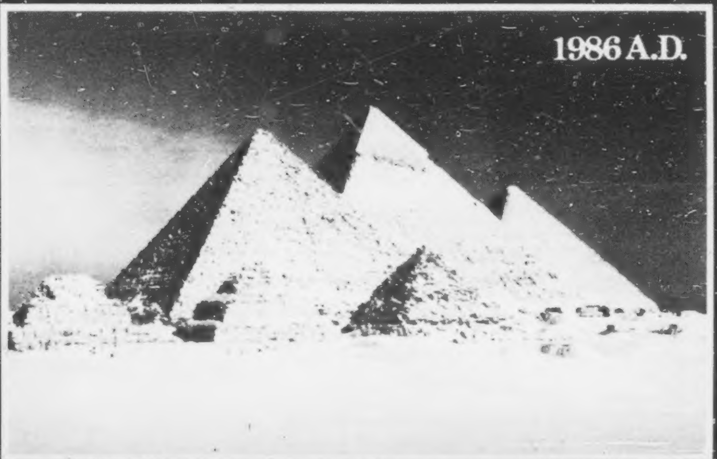

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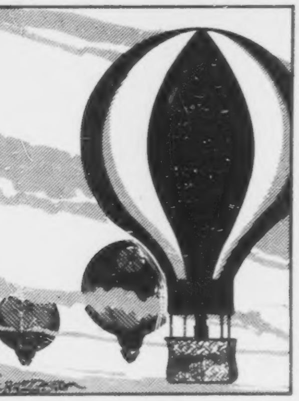


uardian Trust; Security Pacific vestment; Stein Roe & Farnham; oomis, Sayles.

Bond managers: Capital Guard- n; Brown Brothers Harriman; MB Investment; Massachusetts nancial; Criterion; Morgan Guar- nty.

Real estate managers: The arsten Co.; Quong-Watkins Prop- ties.

The custodian for the retirement stem is Security Pacific National ank.

Key personnel overseeing in- estments are Richard B. Dixon, unty treasurer; Sandra R. Tra- y, senior assistant treasurer-fi- ance; and Charles L. Spencer, re- rement systems administrator.

eachers Retirement System of Louisiana

	($ millions)
tal assets	2,110
Defined contribution	2,110
Employer contributions	120
nefit payments	224

BATON ROUGE, La. — In Jan- ry 1985, the Teachers Retirement stem of Louisiana started a se- rities lending program, bringing an estimated $650,000 to the nd, according to Jennifer Netter- ile, investment portfolio special- for the fund.

Total assets of the system in- eased 20.3% to $2.110 billion as of pt. 30, up from $1.754 billion the evious year.

The fund manages $350 million ternally in short-term invest- ents. The system also invests $250 illion in mortgage-backed securi- s.

The asset mix as of Sept. 30 was % stocks, 57% bonds, 17% cash uivalents and 12% mortgage- cked securities.

Equity manager: M.D. Sass.

Balanced managers: Scudder, evens & Clark; Citicorp; Hiber- a National; Massachusetts Finan- al.

The fund's custodian is City Na- nal Bank of Baton Rouge.

The key personnel overseeing e investment of the system's sets are Ms. Netterville and Car- ton Page, secretary and treasurer.

he LTV Corp.

	($ millions)
tal assets	2,173
Defined benefit	1,883
Profit-sharing	197
Thrift or savings	93
Employer contributions	na
nefit payments	na

DALLAS — In an effort to re- uce costs and conserve cash, The TV Corp. sought and received a 83 million pension contribution aiver from the Internal Revenue ervice and elected to freeze two efined benefit plans in its steel nit.

The company replaced the fro- en plans with a single defined ntribution plan.

Total employee benefit assets de- ined by about 7.6% for the year nded Sept. 30, falling to about $2.2 illion from about $2.3 billion. The ompany declined to discuss the easons for the drop.

Five equity managers and one ond manager are no longer on the company's list of external asset managers. Dropped were equity managers Century Capital, Continental Illinois, Endowment Management, Forstmann-Leff and Fayez Sarofim and bond manager Manufacturers Hanover.

The fund manages $631 million of its pension assets internally. The company declined to say how the assets are invested.

The asset mix as of Sept. 30 was 60% stocks; 25% bonds; 6% cash equivalents; 7% real estate equity and 2% other.

Equity managers: Bankers Trust; Batterymarch; Delaware Investment Advisors; Fidelity International; Franklin Portfolio; InterFirst; Lord Abbett; MacKay-Shields; Mellon Bank; MSecurities; Morgan Grenfell; National City Bank.

Bond manager: Scudder, Stevens & Clark.

Real estate: CB Institutional IV; Karsten; Security Capital.

GICs: Aetna; John Hancock; Metropolitan; Travelers.

Mellon Bank is master trustee.

Dennis J. Hamilton is director-benefit trust funds.

Computer products for use by corporate finance and pension fund managers is the topic of a special section in the March 3 issue of *P&I Age*.

m

Maryland State Retirement and Pension Systems

	($ millions)
Total assets	5,020
Defined benefit	5,020
Employer contributions	449*
Benefit payments	339*

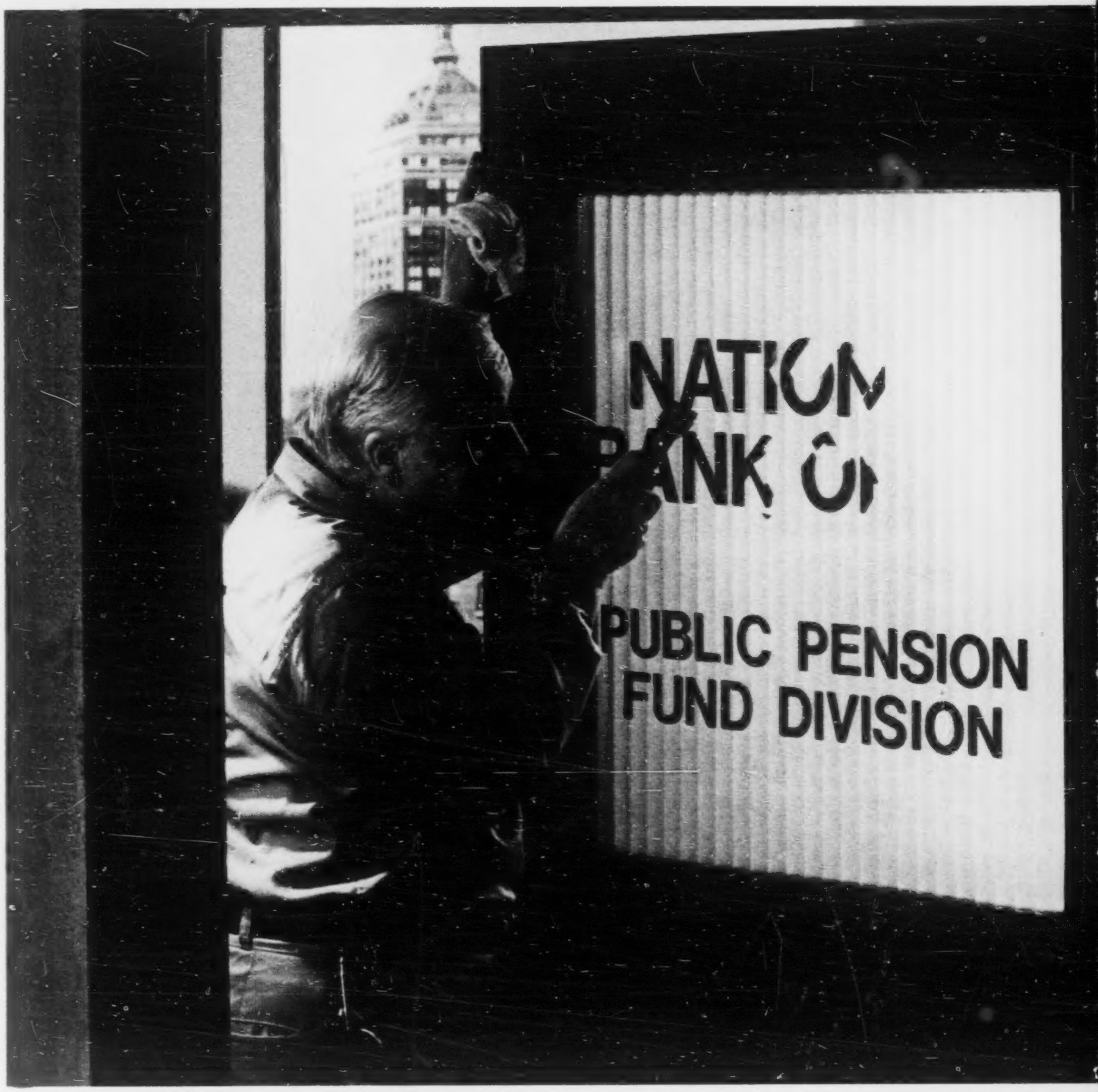
*as of June 30, 1984

BALTIMORE — In 1985, the Maryland Legislature passed a law effective July 1 placing a two-year moratorium on new investments in securities of companies that have not signed the Sullivan principles dealing with apartheid in South Africa.

However, the law did not contain any divestiture provisions.

During 1985, the Maryland State Retirement and Pension Systems released three equity managers: Hambrecht & Quist; Tower Capital; and Loomis, Sayles. The fund did not hire any managers.

As of Sept. 30, total assets of the systems had grown 22.2% to $5.02 billion from $4.107 billion the previous year. Officials of the fund attributed the increase to good market returns.



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As of June 30, 1984, the most recent figures available, the employer contribution was $449 million. Benefits paid as of the same date were $339 million.

Equity managers: Alliance Capital; Atlanta Capital; Capital Guardian; Dimensional Fund Advisors; Eaton & Howard, Vance Sanders; Hagler; Mastrovita & Hewitt; Investment Advisers; Investment Counselors of Maryland; Johnson Valliance & Broadfoot; MacKay-Shields; Scudder, Stevens & Clark; State Street Research; Wellington Trust.

Bond managers: Investment Counselors of Maryland; Mercantile Safe Deposit & Trust; Miller, Anderson & Sherrerd; Morgan Stanley; Pacific Investment Management; Standish, Ayer & Wood.

Of the $2.518 billion managed internally, $1.831 billion is run in an indexed stock fund and $687 million is invested in fixed income. The systems also invest $31 million in mortgages.

The systems' asset mix as of Sept. 30 was 56% stocks, 29% bonds, 4% cash equivalents, 10% mortgage-backed securities and 1% mortgages.

The custodian is First National Bank of Maryland.

The key personnel are Howard J. France, executive director-investments; Enos T. Throop Jr., director-equity; and Arthur M. Lynch Jr., director-fixed income.

Massachusetts State Employees & State Teachers Annuity Funds

	($ millions)
Total assets	2,917
Defined benefit	2,917
Employer contributions	300
Benefit payments	na

BOSTON — In 1985, the fund continued a restructuring begun in 1984 aimed at reducing the state's unfunded liabilities. Eventually, fund officials would like to see the equity portion of the fund's portfolio near the 40% mark.

As of Sept. 30, equities were at 12.1%, and a month later were over 13%, said Alan R. West, chief investment officer for the fund.

Mr. West said the fund would eventually look at real estate, with a target of 5% to 10% of assets in real estate.

In 1985, the fund hired Hagler, Mastrovita & Hewitt; One Federal Asset Management; Trinity Investment; and Ruggles and Crysdale to run equity accounts. Independence Investment Associates was hired for a core equity account.

In the first quarter of 1985, the fund hired State Street Bank & Trust to serve as master custodian, replacing Bank of Boston.

The total employee benefit assets increased 21.5% as of Sept. 30, to $2.917 billion from $2.4 billion a year earlier.

Of that, $2.564 billion is managed internally; $2.395 billion in fixed income and $169 million in short-term investments.

The asset mix as of Sept. 30 was 12.1% equity; 60.1% bonds; 5.8% cash; and 22% mortgage-backed securities.

The fund has $81 million invested in foreign fixed income, $20 million in an equity index fund and $20 million in GICs. The fund uses stock options.

State Street Bank & Trust is the master custodian.

Mr. West oversees investment management of the fund.

McDonnell Douglas Corp.

	($ millions)
Total assets	4,914*
Defined benefit	3,674
401(k)	1,240
Employer contributions	309
Benefit payments	na

*as of June 30, 1985

ST. LOUIS — According to the 1986 Money Market Directory, McDonnell Douglas has $4.914 billion in employee benefit assets as of June 30, up 19.6% from $4.108 billion as of Sept. 30, 1984.

Employer contributions to all benefit plans for 1985 increased 96.8% to $309 million from $157 million in 1984. The company paid $114 million in benefits to retirees in 1984, the most recent figures available.

Managers: Aetna Capital Management; Aetna Life & Casualty; Bankers Trust-Investment Management Group; Centerre Trust; Concord Capital; Dimensional Fund Advisors; LaSalle Advisors; Nomura Capital; RREEF; TCW Realty.

The company's asset allocation was unavailable.

The master trustee for the pension fund is Bankers Trust.

Key personnel overseeing the investment of the fund's assets are David Hammerstein, director-retirement funds management; Sheryl Kwiatek, senior investment analyst; and Kenneth R. Velten, plan administrator.

Metropolitan Life Insurance Co.

	($ millions)
Total assets	2,525
Defined benefit	1,980
Thrift or savings	520
401(k)	25
Employer contributions	68
Benefit payments	120

NEW YORK — Metropolitan Life's employee benefit assets grew 8.6% during the year ended Sept. 30, to $2.525 from $2.325 billion a year earlier.

In addition to defined benefit plan assets of $1.98 billion, the company reported thrift and saving plan assets of $520 million and a 401(k) plan of $25 million.

The company made $68 million in contributions during the 1985 plan year, and paid out benefits of $120 million.

The plan assets are managed internally, including about $376 million in equities, about $1.39 billion in fixed income, about $20 million in short-term investments and $198 million in other asset classes, including real estate.

The asset mix as of Sept. 30 was 19% stocks, 70% fixed income, 10% real estate and 1% cash.

Michigan State Employees' Retirement Systems

	($ millions)
Total assets	10,516
Defined benefit	10,516
Employer contributions	791
Benefit payments	558

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Michigan State Employees' Retirement Systems increased 17.5% to $10.516 billion as of Sept. 30 from $8.951 billion a year earlier.

Michigan's in-house venture capital operation made commitments of $149 million to several more venture partnerships during 1985, including MBW Venture Partners, Sun Western Investment Fund II, Accel Telecom and New Tech Ventures. It also invested directly in several new companies.

The system also committed $35 million to the Kohlberg Kravis Roberts leveraged buy-out pool. It had put $10 million into an earlier KKR pool, which brought investors gains from the sale of a Los Angeles television station.

The fund has $33 million in real estate equity and $1.34 billion in mortgages as of Sept. 30.

All assets are managed internally. As of Sept. 30, the asset mix was 45.4% equities, 27.9% bonds, 3.9% cash equivalents, 0.3% real estate equity, 12.8% mortgages, 8.8% mortgage-backed securities and 0.9% venture capital.

William A. Amerman is director of investments.

Largest profit-sharing plans
($ millions)

Fund	Assets
Sears, Roebuck & Co.	$3,566
Procter & Gamble	2,095
Chevron Corp.	1,425
J.C. Penney Co. Inc.	1,018
Halliburton Co.	817
Northrop Corp.	742
Motorola Inc.	667
American Stores Co.	601
Unocal Corp.	387
Philip Morris	370
Atlantic Richfield Co.	260
Texas Instruments Inc.	260
LTV Corp.	197
John Hancock Mutual Life	134
CIGNA Corp.	90
New YorkLife Insurance Co.	54
American Can Co.	48
ITT Corp.	28
Armco Inc.	17
R.J. Reynolds	15
North American Philips Corp.	15
Raytheon	6
Caterpillar Tractor Co.	3
Ashland Oil Inc.	2
Total	**$12,802**

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Minnesota State Board of Investment

	($ millions)
Total assets	6,800*
Defined benefit	6,800
Employer contributions	400
Benefit payments	300

*as of June 30, 1985

ST. PAUL, Minn. — The Minnesota State Board of Investment's pension assets totaled $6.8 billion as of June 30, an increase of 21.2% from the $5.607 billion reported Sept. 30, 1984.

A dedicated bond portfolio to fund benefits for retirees was set up late in 1984. Of the $2.7 billion portion of the fund that covers retirees, $2 billion is in the dedicated portfolio, which is managed in-house.

During the year, the fund dropped four equity managers — Trustee & Investor, Siebel Capital, Herbert Smith and Loomis, Sayles. The assets were reallocated to other existing equity managers.

For real estate, the fund added TCW and Aldrich, Eastman & Waltch.

In venture capital, it added Allied Partners, Matrix Partners, Inman & Bowman, Norwest Venture Capital and DSV. It also made a commitment to Kohlberg Kravis Roberts' leveraged buy-out fund.

In addition to the $2 billion dedicated portfolio, the fund also runs $700 million in equities in-house.

The fund has $1.6 billion in indexed stocks, $200 million in real estate equity, $100 million in mortgages, $40 million in venture capital, $25 million in leveraged buyouts and $30 million in oil and gas. The fund has made commitments to put more money into alternative investments. It uses stock options.

As of June 30, the approximate asset mix was 50% stocks, 35% bonds, 6% cash equivalents, 1% mortgages, 2.5% real estate equity and 1.5% in other investments, including venture capital, leveraged buy-outs and oil and gas.

Equity managers: Fred Alger; Alliance; Beutel Goodman; BMI Capital; Forstmann-Leff; Hellman Jordan; IDS Advisory; Investment Advisers; Lieber & Co.; Norwest Bank; Research Management.

Bond managers: Investment Advisers; Lehman; Morgan Stanley; Miller Anderson & Sherrerd; Northwestern Bank; Western Asset Management.

Real estate managers: Aetna; Aldrich Eastman; Equitable; Heitman; Prudential; RREEF; TCW.

Venture capital managers: Allied Partners; DSV; Inman & Bowman; Matrix Partners; Norwest; Smith Barney; Summit.

Leveraged buy-outs manager: KKR.

State Street Bank is master trustee.

Key investment management personnel are Howard Bicker, executive director; Jeff Bailey, assistant executive director; and Teresa Myers, assistant to the executive director.

Public Employees' Retirement System of Mississippi

	($ millions)
Total assets	2,465*
Defined benefit	2,213
Defined contribution	252
Employer contributions	143
Benefit payments	160

*as of June 30, 1985

JACKSON, Miss. — The move to outside management that began in 1983 was completed during 1985, as the Public Employees' Retirement System of Mississippi disbursed $103.1 million in fixed-income assets among its existing fixed-income managers.

For the first time, the fund allocated assets for an equity index fund and hired Bankers Trust to run it. As of June 30, there was $94.6 million indexed. Those assets came from equity manager Alliance Capital, which was terminated.

Ron D. Logan joined the fund as investment manager, replacing James H. Dunn, who moved over to deputy director of administrative services.

The total pension assets increased 39%, to $2.465 as of June 30 from $1.773 billion nine months earlier.

Equity managers: Bankers Trust; Eaton Vance; INVESCO; Fayez Sarofim; Scudder, Stevens & Clark.

Bond managers: Criterion; Dreyfus Management; Lehman; MacKay-Shields; Manufacturers Hanover; Pacific Investment Management; Wentworth, Hauser and Violich.

The asset mix as of June 30 was 16.9% stocks, 49.8% bonds; 9.8% cash; and 23.5% mortgage-backed securities. The mortgage-backed securities increased by about 10% because two of the fund's fixed-income managers strengthened their emphasis on mortgage-backed securities as part of their overall strategy.

Trustmark National Bank is the master custodian.

Key personnel are Charles D. Wilkinson, deputy director-investments; Ron D. Logan, investment manager; and Anne D. Middleton, investment technician.

The Public School Retirement System of Missouri

	($ millions)
Total assets	2,955*
Defined benefit	2,953
Other	2

Funds investing in mortgages
($ millions)

Fund	Assets
TIAA-CREF	$8,921
California Public Employees	8,731
New York State Common Fund	2,596
Ohio Public Employees	2,000
New York State Teachers	1,595
Michigan State Employees	1,340
General Electric	1,230
Ohio State Teachers	907
California State Teachers	800
Colorado Public Employees	800
Texas Teachers	681
Pennsylvania Public School	571
Alaska State Systems	499
Oregon Public Employees	420
Connecticut Trust Funds	398
Hawaii Employees System	394
Bethlehem Steel Corp.	380
Washington State Board	350
Pennsylvania State Employees	306
L.A. County Employees	268
Arizona State System	250
Louisiana Teachers System	250
Kentucky Retirement Systems	242
Detroit Retirement Systems	230
Alabama Retirement Systems	211
Teamsters Central States	194
Nevada Public Employees	179
Teamsters, Western Conference	138
Westinghouse Electric Corp.	125
N.Y.C. Retirement Systems	119
Chicago Municipal Employees	110
Kentucky Teachers System	106
American Airlines	100
Minnesota State Board	100
San Fransisco Employees	84
Union of Operating Engineers	80
CIGNA Corp.	76
Ohio School Employees	73
Southern Baptist Church	70
Goodyear Tire & Rubber Co.	68
Honeywell Inc.	65
Citicorp	60
Kansas Public Employees	58
Minnesota Mining & Mfg.	50
United Technologies Corp.	50
World Bank	44
Illinois State Board	42
Union Carbide Corp.	40
Owens-Illinois	38
Arkansas Teachers	38
West Virginia Employees	37
Georgia State Systems	36
Phillips Petroleum Co.	35
Maryland State	31
Travelers Insurance Co.	30
Louisiana State Employees	28
Chevron Corp.	24
Ashland Oil	21
Conoco Inc.	18
Aetna Life & Casualty	16
Halliburton Co.	14
Missouri Public School	13
Shell Oil Co.	12
Monsanto Co.	11
Episcopal Church	10
Baltimore Employees	5
Utah State Employees	2
Houston Retirement System	2
Boilermakers and Blacksmiths	NA
Tennessee Consolidated	NA
Total	**$36,822**

Employer contributions	118
Benefit payments	115

*as of June 30, 1985

JEFFERSON CITY, Mo. — The total assets of the fund increased by $855 million, or about 40.7% in the 12-month period ended June 30, to $2.955 billion.

The plan received contributions of $117.5 million in 1985 and paid benefits of $115 million.

There was $13 million invested in mortgages.

The fund's asset mix as of June 30 was 13.5% stocks; 59.2% bonds; 8.8% cash equivalents; 0.4% mortgages; and 18.1% mortgage-backed securities.

The Boatmen's National Bank is sole manager and master custodian for the retirement system.

DeMarche Associates, Kansas City, was hired in September to study Boatmen's performance. A decision on whether to hire additional managers is pending.

The key person is David W. Mustoe, executive secretary.

Mobil Oil Corp.

	($ millions)
Total assets	4,553*
Defined benefit	3,458
Thrift or savings	1,095
Employer contributions	62
Benefit payments	na

*P&I Age estimate

NEW YORK — *Pensions & Investment Age* estimates Mobil Oil's total employee benefit assets grew 13.8% to $4.553 billion from $4 billion in the 12 months ended Sept. 30.

Mobil cut its pension contribution for the year by more than half, to $62 million from $150 million. The company filed with the Pension Benefit Guaranty Corp. to terminate the approximately $163 million pension fund of Superior Oil Co., which Mobil acquired in 1984, in order to recapture $29 million in excess assets.

According to the 1986 Money Market Directory, Mobil's approximate asset mix as of June 30 was 32% stocks, 27% pooled stocks, 19% bonds, 11% GICs, 10% general insurance accounts, 1% cash and short-term investments. A breakout of the assets of Mobil's defined contribution, 401(k) and employee stock ownership plans was not available.

Equity managers: Alliance Capital; Bankers Trust; Capital Guardian; Fayez Sarofim; Jennison Associates; Miller, Anderson & Sherrerd; State Street Research.

Bond managers: State Street Research.

GIC managers: Aetna Life; Metropolitan Life.

Short-term manager: U.S. Trust Co.

Other managers: Chase Manhattan; Citicorp.

Charles Clune is the manager of benefit funds.

Monsanto Co.

	($ millions)
Total assets	2,900
Defined benefit	2,300
Defined contribution	600
Employer contributions	120
Benefit payments	120

ST. LOUIS — Monsanto's employee benefit assets increased 31.8% to $2.9 billion as of Sept. 30 from $2.2 billion the year earlier. Its pension assets alone rose in that year almost 28% to $2.3 billion from $1.8 billion, while its defined contribution assets rose 50% to $600 million from $400 million. The company attributed the rise in pension assets to performance and in defined contribution assets to both performance and contributions.

Its employee benefit contributions declined almost 8% to $120 million in 1985 from $130 million the previous year. But its benefit payments rose 25% to $120 million in 1985 from $96 million in 1984.

In 1985, Monsanto dropped equity manager Pioneering Management, and hired Hotchkis & Wiley.

Its asset mix as of Sept. 30 was 65% stocks, 20% bonds, 8% cash equivalents and 7% real estate equity. It uses stock and bond options and stock-index and fixed-income futures.

Equity managers: Trinity; Hotchkis & Wiley; Citibank; Lincoln Capital; Fred Alger; State Street Research; Hagler Mastrovita; T. Rowe Price; Delaware Investment; Equitable; Lord Abbett; Jennison.

Bond managers: Morgan Guaranty; Centerre Trust; Fischer Francis Trees & Watts.

Real estate managers: Rosenberg; Equitable; Trust Co. of the West; LaSalle.

Its master trustee is Northern Trust.

Overseeing the fund are Richard McGahan, manager, and A.E. Wolfarth, assistant treasurer.

The annual PIPER report will be featured Feb. 17.

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New Jersey Division of Investment

	($ millions)
Total assets	12,494*
Defined benefit	12,494
Employer contributions	na
Benefit payments	na

*as of June 30, 1985

TRENTON, N.J. — Employee benefits assets at the New Jersey Division of Investment increased 36.3% to $12.494 billion as of June 30, 1985 from $9.166 billion in 1984.

The sizable gain was due largely to strong performance in the fixed-income markets, where $7.8 billion of the public fund's assets are invested.

The division manages all assets internally, with 31% invested in stocks, 51% in bonds, 12% in mortgages and 6% in cash equivalents.

It uses stock options as a hedging vehicle for its equity commitment.

A group of 12 banks acts as custodian.

The pension fund is overseen by Roland Machold, director; William Mooney, deputy director; and Stephen Kornrumpf, assistant director.

New York City Retirement Systems

	($ millions)
Total assets	25,063
Defined benefit	21,849
Defined contribution	2,259
Other	955
Employer contributions	1,868
Benefit payments	2,500

NEW YORK — The New York City Retirement Systems' $25.063 billion in assets comprises $21.849 billion overseen by City Comptroller Harrison J. Goldin and $3.214 billion overseen by the trustees of the New York City Teachers' Retirement System.

The total assets represent an 18.4% increase for the year ended Sept. 30.

Mr. Goldin's office makes all investments for three of the five New York City funds — the Employees Retirement System, with $10.172 billion in assets; the Police Department Pension Fund, $3.6 billion; and the Fire Department Pension Fund, $1.27 billion.

It oversees fixed-income investments for the two other funds — the $421 million Board of Education Retirement System and the $9.6 billion Teachers' Retirement System — investing $368 million and $6.437 billion, respectively, for those funds.

As 1985 ended, fund officials were revamping their management approach by establishing benchmark portfolios for each of their investment managers. One possible outcome would be a shift to passive

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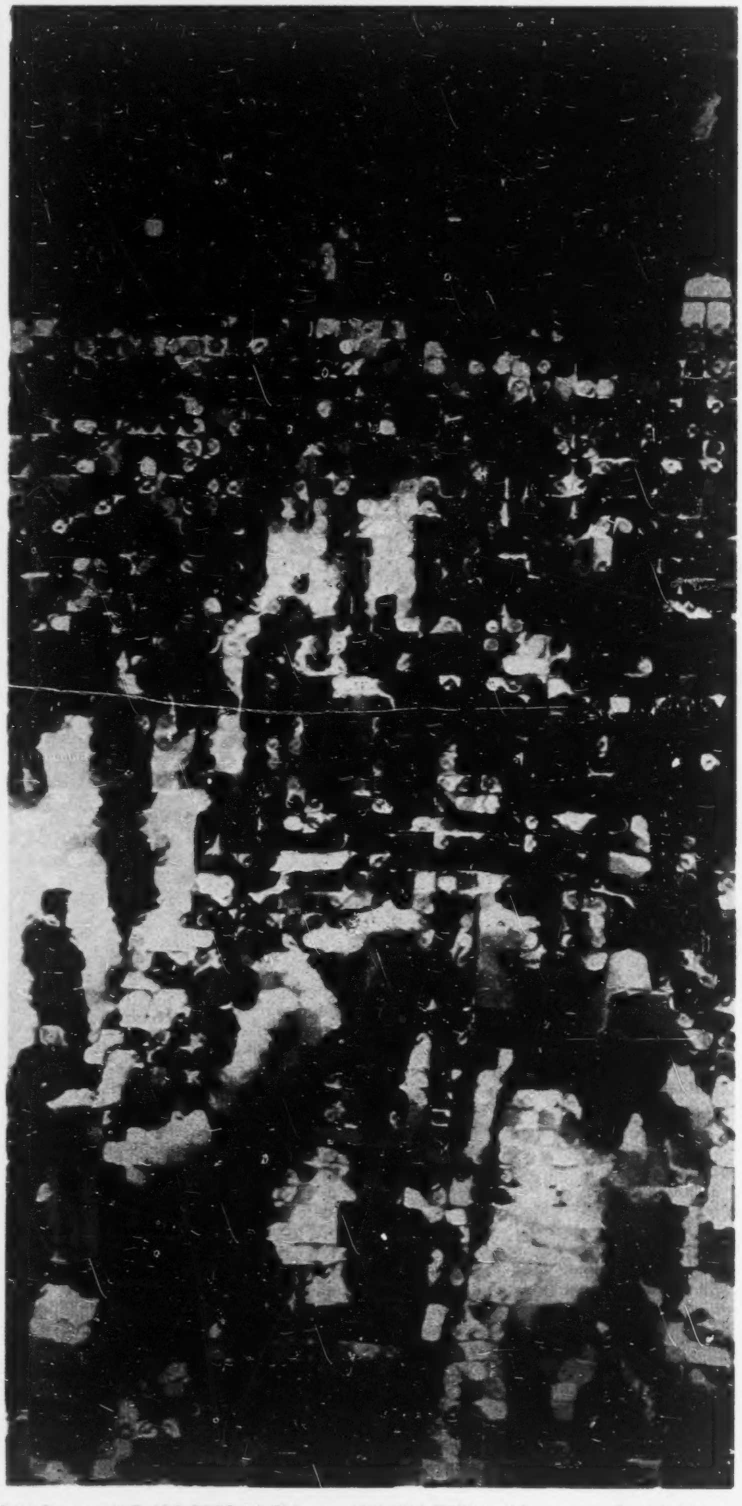

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management in fixed income.

Also, fund trustees were considering whether to proceed with the divestment of stocks of companies in violation of the fund's South African policy.

In January 1985, Marvin L. Damsma, formerly pension fund manager at Kellogg Co., was named third deputy controller, replacing William Badger. In April, the system approved a resolution to help fight discrimination in Northern Ireland by requiring U.S. companies doing business there to sign the MacBride Principles.

In mid-December 1985, the comptroller's office, acting on behalf of the teachers' and Board of Education funds, terminated Favia, Hill & Associates, which ran a total of $2.65 billion in fixed-income assets for the funds.

25 largest defined benefit plans

($ millions)

Rank	Fund	Assets
1.	California State Public Employees'	$29,166
2.	New York State Common Fund	25,997
3.	General Motors Corp.	22,900
4.	N.Y.C. Retirement Systems	21,849
5.	AT&T	21,035
6.	N.Y.State Teachers System	15,303
7.	California State Teachers	15,100
8.	IBM Corp.	13,139
9.	General Electric Co.	12,866
10.	New Jersey Div. of Investment	12,494
11.	Texas Teachers'	11,188
12.	Ohio Public Employee System	10,760
13.	Michigan State Employees	10,516
14.	Ohio State Teachers System	10,178
15.	Ford Motor Co.	9,500
16.	Wisconsin State Board	9,200
17.	Florida Dept. of Administration	8,911
18.	North Carolina Employees	8,773
19.	NYNEX Corp.	8,000
20.	E.I. du Pont de Nemours	7,841
21.	Pa. Public School Employees	7,825
22.	U.S. Steel Corp.	7,500
23.	Ameritech	7,400
24.	Bell Atlantic Corp.	7,000
25.	Minn. State Board of Invest.	6,800
	Total	$313,241

Also, in the last quarter of 1985, the comptroller's office terminated equity manager MacKay-Shields.

Of the assets overseen by the comptroller, $5.132 billion is managed internally: $4.235 billion in short-term investments; $778 million in bonds; and $119 million in mortgages.

The overall asset mix as of Sept. 30 was 30.7% stocks; 46.5% bonds; 17.3% cash; 1.2% mortgages; and 4.3% mortgage-backed securities.

The system boosted its indexed stocks 27% during the year, to $3.3 billion. It also reported $371 million in indexed bonds and $20 million in mortgages.

The Teachers' Variable Retirement funds totaled $3.2 billion as of Sept. 30, including approximately $52 million in equities it oversees for the Board of Education. Of that, $2.6 billion was in fund "A", which invests primarily in equities, and $572 million was in fund "B", which is in GICs.

During 1985, the teachers' fund adopted resolutions regarding investments in South Africa and Northern Ireland.

The fund hired Wells Fargo to run a $200 million balanced portfolio, funding it with assets from an index fund run by Bankers Trust.

The teachers' hired John A. Levin, Westwood Management and Donald Smith and terminated Value Line and BMI Capital.

The Variable "B" fund awarded $338.6 million in GICs to New York Life Insurance and Prudential Asset Management.

Managers as of Sept. 30 were:

Equity managers (employees' system): Alliance; Bankers Trust; Batterymarch; BEA; Dimensional Fund Advisors; Lazard Freres; Oppenheimer Capital; Provident Capital Management; Stein Roe & Farnham.

(Teachers' system): Alliance; Bankers Trust; Batterymarch; Geo-Capital; Management Asset; McConnell & Miller; Mellon Capital; Prudential Asset; Scudder, Stevens & Clark; Concord Capital; Trinity Investment; ValueQuest; Wells Fargo.

Bond managers: Citibank Investment; Favia, Hill; Fiduciary Trust Co. of New York; Fischer, Francis, Trees & Watts; Lehman Management; Pacific Investment Management Co.

GIC managers (teachers' fund): Metroplitan; Prudential; New York Life.

Citibank is master custodian of the employees' systems; Irving Trust is master custodian of the teachers' fund.

Key personnel for the employees' funds are Mr. Damsma; Robert T.C. Wilson, bureau chief; John J. Burns, senior fixed-income analyst; Lisa M. Malanchuk, senior equity analyst. For the teachers' fund: Wallace Sullivan, executive director; Patrick Kiernan, assistant executive director; Diane Sisenwein, portfolio administrator.

New York State Common Retirement Fund

	($ millions)
Total assets	25,997
Defined benefit	25,997
Employer contributions	1,500
Benefit payments	960

ALBANY, N.Y. — In early 1985, John E. Hull replaced Suzanne Jaffe as head of investments for the New York State Common Retirement Fund. Ms. Jaffe had resigned amid controversy caused by a vacation she had taken that was partially paid for by a principal of a securities firm that provides research to the pension system.

During the year, Capital Guardian Trust, Equitable Investment and Lord, Abbett were hired as equity managers; L.F. Rothschild and Favia, Hill were dropped.

The Common Fund's total pension assets climbed 14% during the

Funds investing in mortgage-backed securities

($ millions)

Fund	Assets
California Public Employees	$6,066
Texas Teachers	2,479
New York State Common Fund	1,898
New Jersey Div. of Investment	1,499
Florida Dept. of Administration	1,354
Alabama Retirement Systems	1,186
L.A. County Employees	1,115
Michigan State Employees	925
E.I. du Pont de Nemours	863
South Carolina System	847
Illinois Teachers	671
Mass. Employees & Teachers	642
Teamsters Central States	635
Ohio State Teachers	611
NYNEX Corp.	543
Missouri Public Schools	535
Mississippi Public Employees	520
General Electric Co.	515
Pennsylvania Public Schools	509
Maryland State	502
Ford Motor Co.	475
TIAA-CREF	400
Illinois State Board	387
Iowa Public Employees	343
Ohio School Employees	321
L.A. Fire & Police	307
Ohio Police & Firemen	301
Texas Employees	297
Southwestern Bell Corp.	281
Indiana State Teachers	275
Pennsylvania State Employees	260
Louisiana Teachers Retirement System	235
Wisconsin Investment Board	230
Detroit Retirement Systems	222
San Francisco Employees	216
Georgia State Systems	182
United Mine Workers	170
Chicago Municipal Employees	165
Nevada Public Employees	161
Utah State Employees	130
Indiana Public Employees	122
Shell Oil Co.	115
Intl. Union of Oper. Eng.	109
International Harvester	104
Grumman Corp.	97
New Mexico Employees	95
Kentucky Teachers System	93
L.A. Water & Power	93
Inland Steel Co.	80
Bethlehem Steel Corp.	78
American Airlines	69
Oklahoma Teachers System	68
N.Y.C. Retirement Systems	66
Southern Baptist Church	60
Louisiana State Employees	45
World Bank	44
Boeing Co.	39
Aluminum Co. of America	36
Amoco Corp.	35
GTE Corp.	24
Arkansas Teacher System	23
University of California	21
Ashland Oil	19
West Virginia Employees	12
Philadelphia Municipal Employees	11
Conoco Inc.	10
Unocal Corp.	9
Total	$30,842

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year ended Sept. 30, to $25.997 billion from $22.8 billion (equity assets calculated at market, other investments at book).

Internally run assets increased 14.5%, $22.792 billion from $19.9 billion. Of that, $6.979 billion was in equities; $13.988 billion in fixed income; $1.709 billion in short-term instruments; $116 million in venture capital.

About $6.751 billion of the New York fund's assets are in indexed stocks; $116 million in venture capital; and $2.596 billion in mortgages.

The system's asset mix as of Sept. 30 was 39.2% stocks, 36.5% bonds, 6.6% cash equivalents, 10% mortgages, 7.3% mortgage-backed securities and 0.4% venture capital.

The fund uses outside managers only for equities.

Equity managers: Alliance; Bank of New York; Capital Guardian; Equitable Investment; Lazard Freres; Lord, Abbett; Oppenheimer Capital; J&W Seligman; Shearson Lehman.

Chase Manhattan is the master trustee.

Aside from Mr. Hull, key personnel are John J. O'Connor, chief investment officer and William M. Barrett, director-fixed-income and equity.

New York State Teachers' Retirement System

	($ millions)
Total assets	15,303*
Defined benefit	15,303
Employer contributions	890
Benefit payments	532

*as of June 30, 1985

NEW YORK — The New York State Teachers' Retirement System grew by 19.3% during the year ended June 30 to about $15.3 billion from about $12.82 billion.

During the year, the fund added new equity managers Beutel Goodman, General American Investors, Pilgrim Baxter and Glickenhaus.

The fund manages $12.644 billion internally: $4.217 billion in equity; $5.85 billion in fixed income; $939 million in short-term investments; and $1.638 billion in mortgages.

The fund has allocated $50 million to venture capital investments, including Excelsior 2, MFS, New York State Business Venture Partnership and Norstar Bancorp.

There is $43 million committed to real estate equity and $1.595 billion in mortgages. The fund uses stock options.

The asset mix as of June 30 was 42.3% stocks, 39.4% bonds, 5.3% cash equivalents, 0.2% real estate equity, 10.6% mortgages and 2.2% in receivables and member loans.

Equity managers: Sanford Bernstein; Lehman Management; Oppenheimer Capital; BEA Associates; Beutel Goodman; General American Investors; Pilgrim Baxter; Glickenhaus; Manufacturers Hanover.

Bond manager: Sanford C. Bernstein.

Real estate managers: Aetna; Equitable; Prudential Asset; Goldman, Sachs.

Bankers Trust is custodian.

Key personnel are Harold N. Langlitz, executive director; Edward J. Reno, Jr., securities investment officer, and Lowell A. Blom, mortgage officer.

North Carolina Retirement Systems

	($ millions)
Total assets	8,733*
Defined benefit	8,733
Employer contributions	700
Benefit payments	na

*as of June 30, 1985

RALEIGH, N.C. — The assets of the North Carolina Retirement System increased 9.6%, to $8.733 billion (book value) as of June 30, from the $7.967 billion reported as of Sept. 30, 1984.

The $700 million in contributions includes those made by employees.

The system uses stock options.

As of June 30, the asset mix was 20.6% stocks, 78.1% bonds, 0.3% cash equivalents and 1% real estate. The bond holdings include mortgage-backed securities.

Except for $88 million in real estate equity, the fund is internally managed, with outside equity and bond managers acting in advisory roles.

Equity advisers: Alliance; First Citizens Bank; First Union; NCNB; Thorndike, Doran; Wachovia.

Bond advisers: Duff & Phelps (credit analysis only).

Real estate managers: Aetna; CIGNA; Goldman, Sachs.

The custodian is Bank of New York.

C. Douglas Chappell, deputy treasurer and director-investment and banking division, oversees investment management of the fund.

A look at managers: May 19

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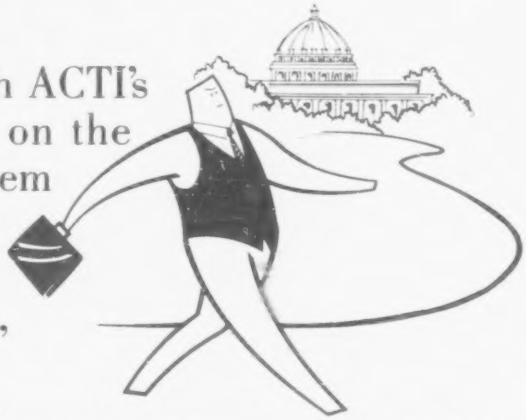

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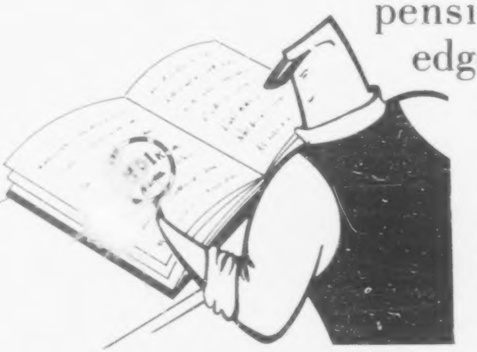

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PO 1

Northrop Corp.

	($ millions)
Total assets	2,142
Defined benefit	1,400
Profit-sharing	742
Employer contributions	130
Benefit payments	36

LOS ANGELES — Northrop Corp.'s employee benefit assets increased 26%, to $2.142 billion as of Sept. 30 from $1.7 billion a year earlier.

Richard B. Lohrer, treasurer, cited the strong markets for both stocks and bonds and a 58% increase over the 21 months ended Sept. 30 in the value of a block of Northrop stock held by the profit-sharing plan as reasons for the increase.

Northrop uses no alternative or passive investments in its pension fund. The asset mix as of Sept. 30 was 67% stocks, 27% bonds and 6% cash equivalents.

Equity managers: Capital Guardian; Forstmann-Leff; Putnam Advisory; Rosenberg Capital; Jennison Associates; State Street Research.

Bond managers: Jennison; Fischer, Francis, Trees & Watts.

Bankers Trust is the master trustee.

Mr. Lohrer oversees employee benefit asset investments.

NYNEX Corp.

	($ millions)
Total assets	09,447
Defined benefit	8,000
Defined contribution	62
Thrift or savings	1,200
Other	185
Employer contributions	240
Benefit payments	408

NEW YORK — NYNEX Corp. experienced an increase in total employee benefits of 114.7%, to $9.447 billion on Sept. 30 from $4.4 billion as of June 30, 1984.

The fund has $1.2 billion in a savings plan, $185 million in an ESOP and $62 million in a defined contribution plan.

The massive increase in total employee benefit assets was attributable to the transfer of pension assets, completed in 1985, to NYNEX from the American Telephone & Telegraph Co.

NYNEX hired equity managers Batterymarch; Citicorp; Vanguard; Miller, Anderson & Sherrerd; and Western Asset Management.

Previous managers Brundage, Story & Rose and Oakwood were dropped from fixed-income accounts and Equitable was dropped from an equity index fund.

The pension asset mix Sept. 30 was 57% stocks, 24% bonds, 8% real estate equity, 5% cash, 6% mortgage-backed securities.

About $2.85 billion is in equity index funds and $1.2 billion in bond index funds. The fund has committed $4.49 million to venture capital and $633 million to real estate equity.

The fund hedges its fixed-income portfolio with futures.

Equity managers: American National Bank; Bankers Trust; Batterymarch; Citicorp; Manufacturers Hanover; TCW; McCowan Associates; State Street Research; Vanguard; Wertheim.

Bond managers: Boston Co.; Brown Brothers; Jennison Associates; John Hancock; Manufacturers Hanover; Massachusetts Financial Services; Miller, Anderson & Sherrerd; U.S. Trust; Western Asset.

GICs (for savings plan only): Aetna; CNA; Connecticut Mutual Life; Connecticut General; Travelers; Massachusetts Life; Metropolitan; New England Life.

Mellon Bank is the master trustee.

Key personnel are Joseph Clines, assistant director of finance, and John Eshemuller and Robert Wysocki, financial operations managers.

The annual PIPER report: Feb. 17.

Ohio Public Employees Retirement System

	($ millions)
Total assets	10,760
Defined benefit	10,760
Employer contributions	630
Benefit payments	570

COLUMBUS, Ohio — The Ohio Public Employees Retirement System had $10.76 billion in assets at Sept. 30, a 25.3% increase from $8.584 billion reported a year earlier.

During the year, the fund dropped Wachovia National Bank & Trust as a real estate manager, replacing it with NCNB National Bank.

The approximate asset mix as of Sept. 30 was 19% stocks, 46.7% bonds, 14% cash equivalents, 2% real estate equity, 18% mortgages and 0.3% venture capital.

Most of the assets, $10.5 billion, are managed in-house: roughly $2 billion in equities; $7 billion in fixed income; and $1.5 billion in short-term investments.

The fund has invested $25 million in venture capital, $170 million in real estate equity and $2 billion in mortgages.

Real estate managers: CIGNA; Aetna; Security Capital; NCNB.

Robert A. McLaughlin is the fund's investment officer.

Ohio Teachers Retirement System

	($ millions)
Total assets	10,178
Defined benefit	10,178
Employer contributions	515
Benefit payments	565

COLUMBUS, Ohio — The State Teachers Retirement System of Ohio had $10.178 billion in employee benefit assets as of Sept. 30, an increase of 19.6% from $8.507 billion a year earlier.

Soon business

It will have $515 million in employer contributions for 1985, up 10% from 1984, and benefit payments of $565 million, up 7.2%.

The fund has $140 million in dedicated or immunized bond funds, $15 million in venture capital, $1.3 billion in real estate equity and $907 million in mortgages. It uses stock options and fixed-income futures.

As of Sept. 30, the approximate asset mix was 31% stocks, 26% bonds, 13% cash equivalents, 13% real estate equity, 10% mortgages, 6% mortgage-backed securities and 1% miscellaneous.

The fund is internally managed, but uses Thorndike, Doran, Paine & Lewis as consultant for equities and bonds and Thomas Karsten Associates as consultant for real estate.

Key personnel overseeing the investment management of the fund are C. James Grothaus, executive director, and Stephen A. Mitchell, assistant executive director-investments.

Oregon Public Employes Retirement System

	($ millions)
Total assets	5,100
Defined benefit	5,100
Employer contributions	410
Benefit payments	200

SALEM, Ore. — The Oregon Public Employes Retirement System benefit assets totaled $5.1 billion as of Sept. 30, an increase of 21.4% from the $4.2 billion reported a year earlier.

In 1985, the Oregon system made a $200 million contribution to the latest leveraged buy-out fund of Kohlberg Kravis & Roberts. It committed $5 million each to MWB Venture Partners and Morgenthaler Venture Partners and $10 million to Oppenheimer-Palmieri Workout Fund.

It also hired Wertheim-Phillipe International as an international manager.

The fund received $410 million in employer contributions in 1985 and made benefit payouts of $200 million.

It manages $2.5 billion internally, all in fixed income.

It also has $193 in international equities; $88 million in venture capital; $360 million in real estate equity; and $420 million in mortgages.

As of Sept. 30, the asset mix for the pension fund was 50% stocks, 35% bonds, 7% real estate equity and 8% mortgages.

Equity managers: BEA; Columbia Management; Rosenberg Capital; Fayez Sarofim; Batterymarch; Harris Associates; Quest Advisory; William Witter; General American; Glickenhaus; Hotchkis & Wiley; Froley, Revy.

Real estate managers: Alex Brown Realty Advisors.

Leveraged buy-outs: Kohlberg Kravis & Roberts.

International managers: ABD; Globe Finlay; Rowe Price-Fleming; DAICAM; Wertheim-Phillipe.

Some of the fund's managers use stock options, stock index futures and fixed-income futures.

Master trustee is First Interstate Bank of Oregon.

Key personnel involved in investments are James C. George, investment manager; and William Unverzagt, investment officer.

p

Pacific Gas and Electric Co.

	($ millions)
Total assets	2,482
Defined benefit	1,655
401(k)	827
Employer contributions	122
Benefit payments	78

SAN FRANCISCO — Pacific Gas and Electric Co. increased the amount of pension assets invested in stock index funds 86.2% to $184.3 million in 1985 from $99 million the previous year. Company officials would not comment on the increase.

PG&E also increased its allocation to equity real estate 68.5% to $126.4 million from $75 million in 1984.

The company decreased its investments in GICs 54.7% to $33.1 million from $73 million a year earlier. The decrease resulted from the maturation of two contracts.

In March 1985, PG&E released Modern Portfolio Theory Associates as an equity manager. The company reallocated the assets among existing managers.

As of Sept. 30, total employee benefit assets had increased 20% to $2.482 billion from $2.068 billion the previous year. Of the total, $1.655 billion was in defined benefit assets, an increase of about 16% from $1.424 billion a year earlier.

The company's 1985 employer contributions increased 12.3% to $122.4 million from $109 million in 1984. Benefits paid to retirees in 1985 increased 11.1% to $77.8 million from $70 million the previous year.

Equity managers: Barrow, Hanley, Mewhinney & Strauss; Beutel Goodman; Cashman, Farrell; Chase Investors; Dodge & Cox; Endowment Management; Frontier; Jundt/Capen; McCowan; Miller, Anderson & Sherrerd; Olympic; Rosenberg Capital; State Street Bank.

Bond managers: Fischer, Francis; Miller, Anderson; T. Rowe Price.

Real estate managers: Corporate Property; Metropolitan; Prudential; RREEF; TCW Realty.

GIC managers: John Hancock; Metropolitan; New York Life.

GACs: Metropolitan; Prudential.

Private placements: Prudential.

As of Sept. 30 the asset mix was 62% stocks, 15% bonds, 5% cash equivalents, 8% equity real estate, 2% GICs and 8% general account contracts.

State Street Bank is master trustee.

Key investment personnel are Stanley T. Skinner, vice chairman; Gordon R. Smith, vice president-finance and treasurer; and Janice K. Murphy, director-pension fund management.

Pacific Telesis Group

	($ millions)
Total assets	6,316
Defined benefit	5,703
Defined contribution	613
Employer contributions	223*
Benefit payments	294*

*defined benefit plan only

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SAN FRANCISCO — Pacific Telesis Group's employee benefit assets totaled $6.316 billion as of Sept. 30, an increase of 19.2% from the $5 3 billion reported the previous year.

In 1985, Pacific Telesis hired real estate managers LaSalle Advisors, Jones Lang Wootton and TCW Realty.

As of Sept. 30, the retirement fund pension asset mix was: 53% stocks, 25% bonds, 4% cash equivalents, 8% real estate equity and 10% international securities.

Managers: ADB International; Capital Guardian; Chase Investors; CMB Investment Counselors; Delphi; Discount Corp. of New York; Dodge & Cox; Fidelity International; Fischer, Francis, Trees & Watts; Hotchkis & Wiley; IDS Advisory; Jones Lang Wootton; Jundt/Capen Associates; Lord, Abbett; Mellon Capital; Morgan Grenfell; Pacific Investment; Pilgrim, Baxter, Hoyt & Greig; Rosenberg Capital; Rothschild International; Sit Investment; Solomon Asset Management; State Street Research; Thompson, Siegel & Walmsley; United Capital; Wellington; Wells Fargo; Western Asset.

Bank of America is the master trustee.

Key personnel overseeing investment are Richard E. Holmes, director-investment management; Jeffrey L. Winter, manager-investment planning and strategy; and Honor R. Fetherston, manager-investment administration and real estate.

Pennsylvania Public School Employes' Retirement System

	($ millions)
Total assets	7,825
Defined benefit	7,825
Employer contributions	763
Benefit payments	535

HARRISBURG, Pa. — In December, the Pennsylvania Public School Employes' Retirement System picked Bankers Trust and J.P. Morgan to run Standard & Poor's 500 index fund accounts.

Under the arrangement, Bankers Trust will run $400 million and Morgan, $200 million. The index funds will be hedged with futures contracts.

The fund already had $3 billion in index funds run by Mellon Bank; two-thirds of those assets are in bond funds.

The $7.825 billion fund also made several key money manager changes during the 12 months ended Sept. 30.

It hired Miller, Anderson & Sherrerd to run a $100 million balanced account; Delaware Investment Advisers to manage a $125 million equity account; Cashman, Farrell to manage $50 million in stocks (later boosted to $150 million); and Glenmede Trust to manage a $280 million bond account. All of those firms are based in Pennsylvania.

The fund dropped MacKay-Shields and State Street Research as equity managers of $150 million and $250 million, respectively.

In addition, the fund installed a covered call option program for all of its equities. Selected to run those programs were Bankers Trust and Oppenheimer Option Management.

The fund also made its first venture capital investments, committing $20 million to Century IV and $1 million to a NEPA fund.

Equity managers: Bankers Trust; Cashman, Farrell; Delaware Investment Advisers; Mellon; Miller, Anderson & Sherrerd; J.P. Morgan; Oppenheimer Capital; Provident.

Bond managers: Glenmede, Trust; Loomis, Sayles; Mellon; Miller, Anderson & Sherrerd; Pittsburgh National Bank.

Real estate managers: Fidelity Bank; Jones Lang Wootton.

Options managers: Bankers Trust; Oppenheimer Option Management.

Venture capital: Century IV; NEPA.

As of Sept. 30, fund assets grew to $7.825 billion, up 18.6% from the $6.597 billion the year before.

Employer contributions rose 25%, to $763 million from $609 million, and benefits paid out dropped almost 13%, to $535 million from $613 million in 1984.

The increase was due to a 1984 court decision against pension contribution legislation.

The asset mix as of Sept. 30 was 25.9% stocks, 40% bonds, 13% cash, 7.3% real estate equity, 7.3% mortgages and 6.5% mortgage-backed securities.

The fund manages $504 million internally in short-term investments.

The fund had $580 million in real estate equity, $571 in mortgages and $21 million in venture capital.

First Pennsylvania Bank is the master trustee.

Overseeing the fund are James A. Perry, executive director, and Clay B. Mansfield, investment administrator.

Pennsylvania State Employes' Retirement System

	($ millions)
Total assets	5,418
Defined benefit	5,418
Employer contributions	450
Benefit payments	445

HARRISBURG, Pa. — The Pennsylvania State Employes' Retirement Fund hired four small- to medium-cap equity managers and five venture capital managers in December. All of the managers are based in Pennsylvania.

For equities, the fund picked Pilgrim Baxter Hoyt & Greig to run $100 million; McGlinn Capital Management, $50 million; Geewax, Terker, $50 million; and First Pennsylvania Bank, $25 million.

The venture capital managers will have an in-state investment bias. Selected were Butcher & Singer Keystone Venture II L.P., $5 million; PNC Venture Group I, $5 million; Fostin Capital Associates, $10 million; TDH II Ltd., $9 million; and NEPA, $1 million.

The fund's new chief investment officer, Kenneth G. Mertz II, joined the fund in November from Dauphin Deposit Bank & Trust, where he was an equity manager. He replaced Gary Sipe, who had come on board in June 1984 but left 10 months later to join Northeastern Bank of Pennsylvania.

In July, the fund dropped Trustee & Investors as manager of a $153 million equity portfolio, with assets shifted to Wells Fargo. Equitable, which had been picked as a real estate manager in 1984, never was funded. The fund also dropped its stock option program, terminating Analytic Investment Management; Balch, Hardy & Scheinman; and Travelers Investment.

The fund set up a $350 million in-house bond portfolio.

The trustees gave existing manager Miller, Anderson & Sherrerd permission to invest in currency plays in foreign fixed-income markets. Nearly $13 million was invested in these assets as of Sept. 30.

As of Sept. 30, the fund had:

Equity managers: Fred Alger; Alliance; Barrow, Hanley, Mewhinney & Strauss; Glickhenhaus; Mellon; Trinity; Wells Fargo.

Bond managers: Mellon; Miller, Anderson & Sherrerd; Payden & Rygel.

Real estate managers: Aetna; Corporate Property Investors; F.I.A. Associates; John Hancock; JMB Institutional; Prudential; Security Capital; Philadelphia Savings Fund Society.

The fund boosted its commitment to passive management, increasing indexed equity assets to $998 million as of Sept. 30, from $544 million the year before. In-

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dexed bond assets rose to $525 million from $432 million 12 months earlier.

As of Sept. 30, the $5.418 billion fund grew 21.7%, from $4.453 billion the year before.

The asset mix was 35.9% stocks, 34.3% bonds, 11.8% cash equivalents, 7.5% real estate equity, 5.7% mortgages and 4.8% mortgage-backed securities. Those figures represent a major shift from 1984, when cash equivalents comprised 34.2% of the fund and bonds only 16.3%.

The state treasurer is the master trustee.

Besides Mr. Mertz, key investment personnel are David D. Burnett and Karen Nicely, investment analysts.

Phillips Petroleum Co.

	($ millions)
Total assets	2,109
Defined benefit	1,359
Thrift and 401(k)	750
Employer contributions	25
Benefit payments	355

BARTLESVILLE, Okla. — Because of an almost quintupling of benefit payments, Phillips Petroleum Co.'s pension assets fell 7.2% to $1.359 billion as of Sept. 30 from $1.464 billion a year earlier.

Phillips instated an early retirement program as part of a corporate restructuring in the aftermath of fighting off hostile takeover attempts by T. Boone Pickens and Carl Icahn. Phillips' benefit outlays in 1985 totaled $355 million, compared with $74 million the previous year. The rise in payments was further heightened by retiring employees taking lump-sum payments as opposed to annuities.

Funds using bond options

Arkansas Public Employees
Chrysler Corp.
E.I. du Pont de Nemours
Episcopal Church
IBM Corp.
Illinois State Universities
Illinois Teachers
International Paper
Kansas Public Employees
Monsanto Co.
North Carolina Employees
Southern California Edison
Tennessee Consolidated
Travelers Insurance Co.
Union Carbide Corp.
United Telecommunications
Upjohn Co.
Westinghouse Electric Corp.

Funds using stock options

Alabama Retirement Systems
Allied-Signal Inc.
Caterpillar Tractor Co.
Chrysler Corp.
Colorado Public Employees
Dart & Kraft Inc.
Delta Air Lines Inc.
Dow Chemical Co.
Eastman Kodak
Eaton Corp.
Episcopal Church
Exxon Corp.
Florida State Board
GTE Corp.
General Electric Co.
General Foods Corp.
Grumman Corp.
Illinois State Universities
Illinois State Board
Inland Steel Co.
International Union of Oper. Eng.
Kansas Public Employees System
K mart Corp.
L.A. Water & Power
L.A. Fire & Police
Mass. Employees & Teachers
Minnesota State Board
Monsanto Co.
N.Y. State Teachers
New Jersey Division of Investment
Ohio School Employees
Ohio State Teachers
Oregon Public Employees
Pennsylvania Public School
R.J. Reynolds
Rhode Island Employees
Sears, Roebuck & Co.
Shell Oil Co.
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So. New England Telephone Co.
Sperry Corp.
Sun Co.
Tennessee Consolidated
Texas Instruments Inc.
Travelers Insurance Co.
Union Carbide Corp.
United Technologies Corp.
Utah State Employees
Westinghouse Electric Corp.

Despite the increased payments, Phillips made no contribution to its pension plan in 1985. Because of the plan's overfunded condition, it hasn't made a contribution since 1982. Phillips, however, contributed $25 million in 1985 to employees' combined thrift and 401(k) savings plans.

In 1985 it dropped equity accounts with Citibank, MacKay-Shields and Travelers, but retained them in other areas.

In real estate equity, Phillips boosted its investment with RREEF by $14 million. Also, it assigned JMB an additional $15 million.

Except for real estate, its asset mix was largely unchanged from the previous year. Its real estate equity rose to $126 million, raising the allocation to almost 10% from 6% in 1984.

Its asset mix as of Sept. 30 was 58% stocks, 9.5% bonds, 9.5% real estate equity, 2.5% mortgages, 11.2% GICs and 9.3% annuities.

Among the funds assets are $227 million in indexed stocks, $152 million in GICs, $35 million in mortgages and $30 million in foreign stocks.

Equity managers: Morgan Guaranty; Barrow, Hanley, Mewhinney & Strauss; Capital Guardian Trust; Wells Fargo, Rogers Casey & Barksdale.

Bond managers: MacKay-Shields; Forstmann Little; Equitable; Citibank.

GICs: Travelers, Aetna.

Annuities: Metropolitan.

Real estate managers: Morgan Guaranty; JMB; RREEF; Aetna; Victor Palmieri.

Of Phillips' fixed-income investments, Forstmann Little invests in leveraged buy-outs and Equitable, in private placements.

Its master trustee is Citibank.

Overseeing employee benefit assets are R.E. Bonnell, senior vice president and treasurer; G.R. Barnett, director-pension investments; and Margaret H. Lou, senior financial investment specialist.

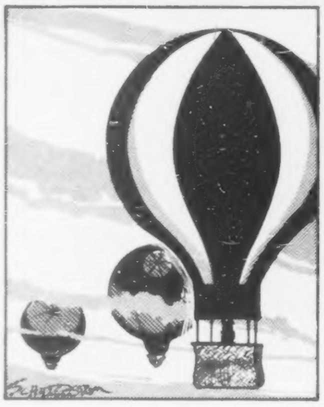
Procter & Gamble Co.

	($ millions)
Total assets	2,123*
Defined benefit	28
Profit-sharing	2,095
Employer contributions	160
Benefit payments	153

*as of June 30, 1985

CINCINNATI — Procter & Gamble Co.'s total employee benefit assets increased 12.6% to $2.123 billion from $1.886 billion in the 12 months ended June 30, 1985.

Employer contributions increased 9.5% to $160 million. Benefit payments totaled $153 million, but no comparable figure for 1984 was available.



The primary retirement plan is a profit-sharing plan, for which the investment options are guaranteed investment contracts and company stock.

GIC manager: Aetna.

Equity managers: The Griffin Group; T. Rowe Price.

Bond manager: The Griffin Group.

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- Real Estate Management
- Venture Capital Management
- PAYSOP Administration
- Legal Administration

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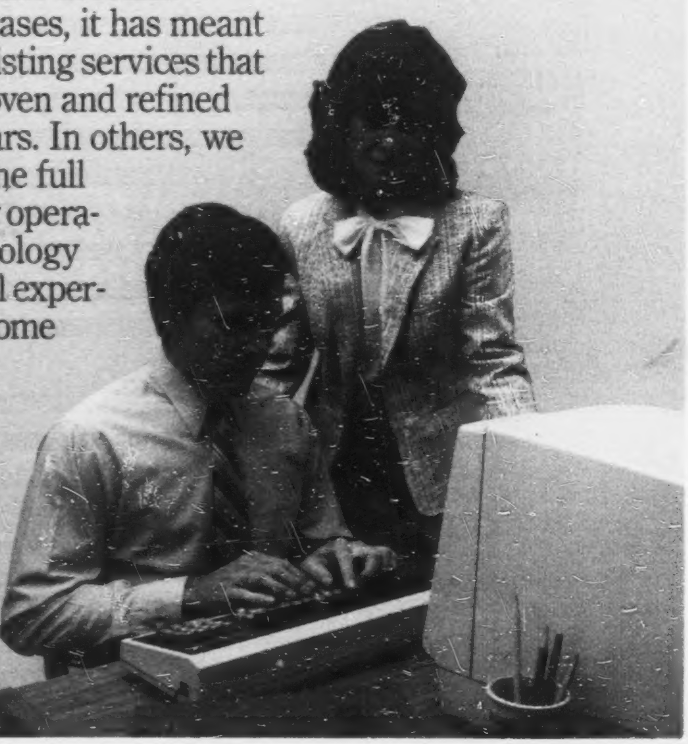

Funds investing in oil and gas
($ millions)

Fund	Assets
AT&T	$241
GTE Corp.	45
Exxon Corp.	41
Honeywell Inc.	40
Minnesota State Board	30
Southwestern Bell Corp.	30
Caterpillar Tractor Co.	26
Ford Motor Co.	25
Allied-Signal Inc.	20
TIAA-CREF	15
Episcopal Church	10
ITT Corp.	10
Monsanto Co.	10
United Technologies Corp.	10
Xerox Corp.	5
Owens-Illinois Inc.	3
U S WEST	1
Commonwealth Edison Co.	NA
Total	**$562**

As of June 30, the approximate asset mix was 57% stocks, 1% bonds, 8% cash equivalents and 34% GICs.

The fund manages $1.365 billion in assets internally. Of that, $1.19 billion is in equities and $175 million is in short-term investments.

Key investment management personnel are E.H. Eaton, vice president-treasurer; K.V. Duncan, manager, investments; and J.R. Smith, manager, pension plan coordination.

Prudential Insurance Company of America

	($ millions)
Total assets	02,793*
Defined benefit	2,793
Employer contributions	50
Benefit payments	118

*P&I Age estimate

NEWARK, N.J. — The employee benefit assets of Prudential Insurance totaled $2.793 billion as of Sept. 30, according to *Pensions & Investment Age* estimates based on the fund's own figures as of Dec. 31, 1984.

Employer contributions were reported at $50 million in 1985, while benefits paid out were $118 million.

All assets are managed in-house.

The asset mix as of Dec. 31, 1984 was 51% stocks, 24% fixed-income, 19% real estate equity and mortgages and 6% cash equivalents.

The fund had international equities of $230 million and international fixed-income investment of $76 million as of the same date.

The fund has $110 million in indexed stocks and $523 million in real estate equity and mortgages.

Investment policy is determined by a committee of three senior officers.

RCA Corp.

	($ millions)
Total assets	02,702
Defined benefit	2,213
Defined contribution	489
Employer contributions	na
Benefit payments	na

NEW YORK — RCA Corp.'s total employee benefit assets increased 8% to $2.702 billion as of Sept. 30 from $2.5 billion a year earlier.

Equity managers: Batterymarch; Chase Index Fund; First Chicago Investment Advisors; T. Rowe Price; Fayez Sarofim; State Street Research; J.P. Morgan Investment Advisors; Endowment Management.

Bond manager: Lincoln Capital Management.

International managers: N.M. Rothschild; J.P. Morgan; Fidelity.

GICs: Aetna Life & Casualty; Travelers.

Bankers Trust Co. is master trustee.

The asset mix as of Sept. 30 was 55% domestic stocks, 5% foreign stocks, 20% bonds, 10% real estate equity and 10% GICs.

Pamela W. McCann is staff vice president and assistant treasurer; Howard A. Freiman is director-pension funds management.

R.J. Reynolds Industries

	($ millions)
Total assets	2,361
Defined benefit	1,920
Profit-sharing	15
Thrift or savings	426
Employer contributions	83
Benefit payments	100

WINSTON-SALEM, N.C. — R.J. Reynolds Industries' employee benefit assets increased by 49.2% during the year ended Sept. 30, largely because of its acquisition of Nabisco Brands Inc.

Along with the $516 million in Nabisco assets, Reynolds picked up the following Nabisco managers: Fischer, Francis, Trees & Watts; Bankers Trust; Forstmann-Leff; Hellman, Jordan; Lieber Capital; McKenzie Walker; Vanguard; Copley; Mellon Capital; and Prudential.

For 1985, its employer contribution to the benefit plans was $83 million, an increase of 59.6% from 1984's $52 million. Benefit payments totaled $100 million, an 82% increase from the $55 million paid in 1984. These increases also were attributed to the Nabisco acquisition.

During the year, Reynolds also announced the formation of RJR Investment Management Inc., which as of Sept. 30 had $402 million in Reynolds pension assets under management, including a $250 million dedicated bond portfolio previously managed by Morgan Guaranty.

The fund has a total of $487 million in dedicated or immunized bond funds and also reported $72 million in indexed stocks, $12 million in foreign equity, $14 million in venture capital and $114 million in real estate equity.

It uses stock options, stock index futures and fixed-income futures.

Following Reynolds' acquisition of Nabisco, James A. Reavis, Nabisco's director of pension asset management, announced he would join Bankers Trust — Investment Management Group, New York, as a managing director.

Equity managers (defined benefit): Bankers Trust; Batterymarch; Capital Guardian; Delaware Investment; Forstmann-Leff; Lieber Capital; MacKay-Shields; McKenzie Walker; Reich & Tang; Warburg Pincus.

(401(k)/thrift): Alliance; Bernstein-Macaulay; Vanguard; Wilkens & Nanovic.

Bond managers (defined benefit): Fischer, Francis, Trees & Watts; Pacific Investment Management; Scudder, Stevens.

(401(k)/thrift plan): Wachovia Bank & Trust.

Real estate managers: Copley; Mellon Capital; Prudential; Wachovia.

International manager: Globe Finlay.

Venture capital managers: Concord Partners; Plant Resources; Advent; DeMuth, Folger & Terhune; NBW Venture Partners; Fairfield Venture Partners.

Options managers: Bear Stearns; The Travelers.

The approximate asset mix as of Sept. 30 was 62.7% stocks, 28.1% bonds, 3.6% cash equivalents, 4.8% real estate equity and 0.8% venture capital.

The master trustee is Wachovia.

Key investment personnel: Gwain H. Gillespie, executive vice president and chief financial officer; John W. Dowdle, senior vice president-financial services; and Gene A. Hoots, president, RJR Investment Management.

Rockwell International

	($ millions
Total assets	5,218
Defined benefit	na
Thrift or savings	na
Employer contributions	403
Benefit payments	na

*as of Dec. 31, 1984

PITTSBURGH — Rockwell International hired Mellon Bank as master trustee in February 1985 replacing Chase Manhattan.

The company also reportedly hired Baillie Gifford, Edinburgh, Scotland, to manage equities.

Rockwell had $5.218 billion in employee benefit assets as of December 1984, according to the 1986 Money Market Directory.

The fund received $403 million in contributions in 1985.

Managers (according to the MMD): Beutel Goodman; Boston Co. Real Estate; Capital Guardian; Cashman, Farrell; Chase Investors; CIGNA; First Interstate Bank of California; First Pacific; Guardian Life; Hotchkis & Wiley; InterFirst Bank of Dallas; InterFirst Investment Management; Manufacturers National Bank of Detroit; Mellon Bank, Metropolitan Life; J.P. Mor

Funds investing in venture capital
($ millions)

Fund	Assets
General Electric Co.	$313
AT&T	290
Washington State Board	202
Michigan State Employees	149
New York State Common Fund	116
Honeywell Inc.	105
Bell Atlantic Corp.	100
University of California	91
Oregon Public Employees	88
GTE Corp.	73
Exxon Corp.	60
Ameritech	52
Sears, Roebuck & Co.	51
Ford Motor Co.	50
U S WEST	47
FMC Corp.	40
Minnesota State Board	40
N.Y. State Teachers	40
Aluminum Co.of America	35
Chicago Municipal Employees	35
Delta Air Lines Inc.	35
United Technologies Corp.	35
Southwestern Bell Corp.	30
World Bank	29
Conoco Inc.	29
Grumman Corp.	25
Ohio Public Employees	25
Westinghouse Electric Corp.	25
Ohio School Employees	23
Pennsylvania Public School	21
Dow Chemical Co.	20
Dresser Industries	20
Armco Inc.	19
General Foods Corp.	18
TRW Inc.	18
Deere & Co.	17
Owens-Illinois Inc.	17
Colorado Public Employees	15
Ohio State Teachers	15
Utah State Employees	15
R.J. Reynolds	14
Dart & Kraft Inc.	13
Illinois State Board	11
Allied-Signal Inc.	10
Illinois Teachers	10
John Hancock Mutual Life	10
Minnesota Mining & Mfg.	10
Ohio Police & Firemen	10
Southern California Edison	10
Sperry Corp.	10
Eaton Corp.	8
Texas Instruments Inc.	7
Unocal Corp.	7
Detroit Retirement Systems	7
Citicorp	5
Eli Lilly & Co.	5
Inland Steel Co.	5
NYNEX Corp.	5
Nevada Public Employees	4
KMI Continental	3
Illinois Municipal Employees	2
Pennsylvania State Employees	NA
Presbyterian Church	NA
Total	**$2,594**

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gan; Morgan Stanley; PRIMECAP; Fayez Sarofim; Scudder, Stevens & Clark; Seattle First; Security Pa-cific Investment Managers; Secu-rity Pacific National Bank; Secu-rity Peoples Trust; Siphron & Meyers; Stralem; Tower Capital; Transamerica Investment; Travel-ers; Waite & Correnti; Western Asset Management.

E.W. Alstaetter, staff vice presi-dent-pensions, insurance and risk management, oversees the fund.

S

City and County of San Francisco Employees Retirement System

	($ millions)
otal assets	2,157
Defined benefit	2,157
mployer contributions	210
enefit payments	155

SAN FRANCISCO — The San rancisco fund hired Carolyn amilton as assistant chief of in-estments during the year ended ept. 30.

Pension assets increased 27% to 2.157 billion as of Sept. 30, from 1.7 billion a year earlier. Strong erformances of both the stock and ond markets were responsible for he increase, said DeWitt Bowman, hief investment officer.

The fund manages $1.082 billion nternally, $1.024 billion in fixed [illegible]me and $58 million in equities.

[illegible]ty managers: Crocker In-[illegible] nt Management; Eaton [illegible] Loomis Sayles; George [illegible]gman.

Bond managers: Bankers Trust; ehman Asset; MacKay-Shields; cudder, Stevens.

Real estate manager: Coldwell anker.

Index manager: Great Ameri-an Core Investors.

The asset mix as of Sept. 30 was 9% stocks, 47% bonds, 5% cash quivalents, 5% real estate equity, 4% mortgages and mortgage-acked securities.

Bankers Trust is master custo-ian.

The fund had $98 million in an ndexed stock fund. Its real estate nvestments are $104 million in eq-ity, $84 million in mortgages and 210 million in mortgage-backed ecurities, which are 80% federally uaranteed and the majority issued y the Government National Mort-age Association.

Key investment personnel are r. Bowman, Ms. Hamilton and iane Gale, also an assistant chief f investment.

ears, Roebuck & Co.

	($ millions)
otal assets	5,481
Defined benefit	1,915
Profit-sharing	3,566
mployer contributions	na
enefit payments	na

CHICAGO — Sears, Roebuck & o.'s total employee benefit assets ncreased 14% to $5.481 billion in he year ended Sept. 30, from 4.808 billion. Its pension assets rew by 23.6%, to $1.915 billion as f Sept. 30 from $1.549 billion a ear earlier.

Sears hired Aldrich, Eastman nd Waltch during the year for a umber of real estate investments nd allocated the following for in-ernational investment: $33 million o Capital Guardian; $27 million to utnam International; and $45 mil-ion to Fidelity International.

The approximate asset mix as of ept. 30 was 46% stocks, 38% bonds including mortgage-backed securi-ies), 4% cash equivalents, 2% real state equity, 3% venture capital nd 7% foreign equities.

The firm manages $1.766 billion n-house through Sears Investment Management Co.: $883 million in equities; $72 million in short-term investments; $730 million in fixed income; and $81 million in other investments.

The fund has invested $566 million in indexed stocks, $129 million in foreign equity, $51 million in venture capital and $50 million in real estate equity.

It uses stock options and stock index futures.

Real estate manager: Aldrich, Eastman & Waltch.

International managers: Capital Guardian; Fidelity International; Putnam International.

Continental Illinois is the master trustee for the fund.

Key personnel of Sears Investment Management are: David Dootson, president, Michael Norton, vice president-fixed income; and David Williams, research director.

Look for the Money Mover Scorecard in the Feb. 3 issue.

This announcement appear: as a matter of record only.

October 29, 1985

$53,350,000

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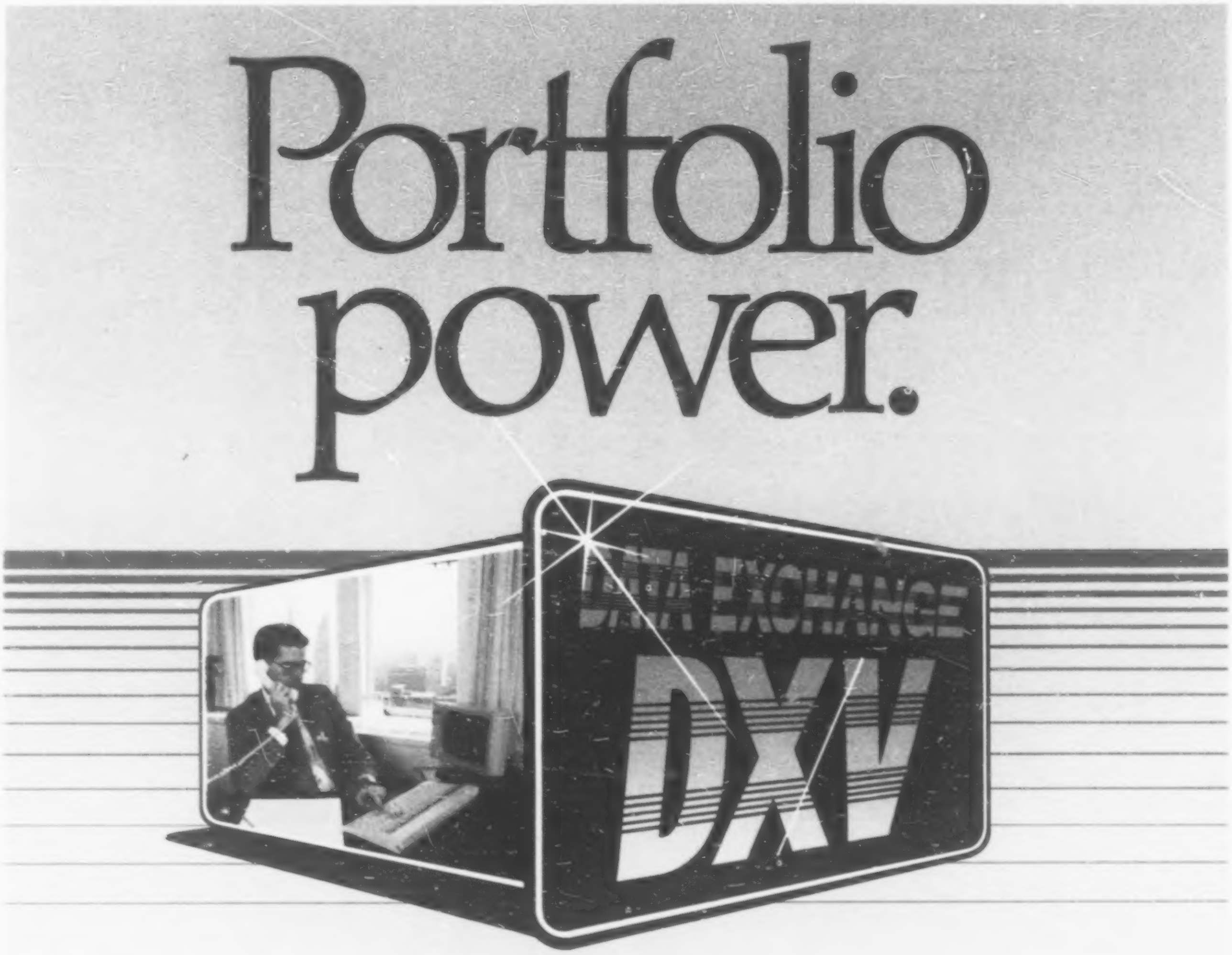

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Shell Oil Co.

	($ millions)
Total assets	4,979
Defined benefit	2,291
Defined contribution	2,319
401(k)	80
Other	289
Employer contributions	180
Benefit payments	325

HOUSTON — Employee benefit assets at Shell Oil Co. increased 10.2% to $4.979 billion for the year ended Sept. 30, from $4.517 billion the year before. Defined benefit assets increased 13.6% to $2.291 billion from $2.016 billion a year earlier.

Shell's employer contribution increased 12.5% to $180 million from $160 million while its benefit payments rose only 8.3% to $325 million from $300 million.

During May, Shell terminated an equity account with State Street Research and transferred those assets to its index fund managed by Wells Fargo Bank.

Shell manages $1.045 billion of its assets internally: $143 million in equities, $877 million in fixed-income and $25 million in short-term investments.

Shell has $432 million invested in an equity index fund, $69 million in GICs, $289 million in real estate equity and $12 million in mortgages.

The fund has custodial accounts with Bank of Boston, MBank Houston and Texas Commerce Bank.

The fund uses stock options.

The asset mix of the fund as of Sept. 30 was 45% stocks, 29% bonds, 4% cash, 13% real estate equity, 3% GICs, 1% mortgages and 5% mortgage-backed securities.

Equity managers: Criterion, Dodge & Cox, Equitable Life, Fayez Sarofim, Mellon Bank, Kemper Financial, Wells Fargo, First City National Bank.

Bond manager: Texas Commerce Bank.

Real estate managers: Aetna, Equitable, John Hancock, Prudential.

GICs: Aetna, Equitable, John Hancock, Metropolitan, New York Life, Prudential, Travelers.

R.S. MacIntire is plan administrator.

South Carolina Retirement System

	($ millions)
Total assets	4,980*
Defined benefit	4,980
Employer contributions	326
Benefit payments	na

*as of June 30, 1985

COLUMBIA, S.C. — The South Carolina Retirement System committed $50 million to Maggie Mae pass-through securities through MGIC Mortgage Marketing Corp. in December.

The retirement system's total assets grew 64%, to $4.98 billion on June 30 from $3.036 billion on Sept. 30, 1984, according to information from the 1986 Money Market Directory. The employer contribution rose 116%, to $326 million from $151 million in the nine-month period.

The assets are managed in-house; Jamison, Eaton & Wood provides investment advice.

The approximate asset mix as of June 30, according to MMD, was 76% bonds, 7% cash equivalents and 17% mortgage-backed securities.

Key personnel are Grady L. Patterson Jr., state treasurer, and Shakun Tahiliani, director of long-term investments.

Southwestern Bell Corp.

	($ millions)
Total assets	4,616
Defined benefit	4,250
Thrift or savings	366
Employer contributions	217
Benefit payments	193

ST. LOUIS — Southwestern Bell implemented a core manager system, hiring five equity managers at mid-year to add additional investment styles to its existing stable of managers. In late December, the fund made its first moves into international, hiring four equity managers.

Employee benefit assets increased 28.6% for the year ended Sept. 30, to $4.616 billion from $3.59 billion. There is $4.25 billion in a defined contribution plan and $366 million in savings and 401(k) plans.

Southwestern Bell has a $1.358 billion core passive index equity fund at Wells Fargo Bank. Around that core the remaining equity-oriented assets are invested with various managers following diverse styles.

New equity managers hired in 1985 were GeoCapital; Franklin Portfolio; Jennison Associates; Nicholas Applegate; Pilgrim, Baxter, Hoyt & Greig.

The company shuffled assets among some of its existing managers and converted RepublicBank Dallas, InterFirst Bank, First City Bank and Texas Commerce Bank to equity-only managers and Boatmen's National Bank to a bond manager.

The asset mix on Sept. 30 was 52.9% stocks, 27.4% bonds, 6% cash equivalents, 6.7% real estate equity, 6.6% mortgage-backed securities, 0.4% other.

The fund has $27.9 million invested in foreign equity, $11.8 million in foreign fixed income and $284.6 million in real estate equity. It has commitments of $30 million each for venture capital and oil and gas, although it has yet to invest in venture capital and has invested just $15.2 million in oil and gas.

Master trustees are RepublicBank Dallas and Bankers Trust.

Equity managers: Beutel, Goodman; Bankers Trust; First City; GeoCapital; Franklin Portfolio; InterFirst; Jennison; Mercantile Trust; Nicholas Applegate; Pilgrim, Baxter; RepublicBank Dallas; Texas Commerce; Wells Fargo.

Bond managers: Brown Brothers Harriman; Boatmen's National; Jennison; Mercantile Trust.

Key investment personnel include R.W. Wohlert, assistant treasurer-corporate finance; M.A. Devine, district manager for pension investment and administration; and L.A. Kohn, district manager-pension fund.

Sperry Corp.

	($ millions)
Total assets	2,500
Defined benefit	1,584
Thrift or savings	916
Employer contributions	na
Benefit payments	na

NEW YORK — Sperry Capital Management, the pension investment subsidiary of Sperry Corp., hired its first overseas equity managers in 1985 and expanded the global mandate of one of its domestic equity managers.

Putnam International, Mellon-Pictet International and Mercator Asset Management were brought in to run international equities. Sperry also gave the approval for Thorndike, Doran, Paine & Lewis to put up to 30% of its domestic equity account into foreign equities, up from 10% previously.

William Rechter, formerly president of Sperry Capital, was named deputy treasurer and director of investor relations. He retained responsibility for monitoring the investment management and overall functioning of the company's employee benefit operation. In December, Mr. Rechter announced he was resigning to join Cowen Asset Management.

Total employee benefit assets climbed 16% for the year through Sept. 30, to $2.5 billion from $2.154 billion in 1984.

Sperry runs $867 million of its pension assets internally: $501 million in equities, $246 million in fixed-income, $110 million in short-term instruments and $10 million in venture capital.

Some $222 million of its assets are in indexed stocks, $160 million

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in indexed bonds, $686 million in GICs, $50 million in international equities and $10 million in venture capital. Sperry uses stock options as well.

The asset mix as of Sept. 30 for its total employee benefit assets was 36% stocks, 16% bonds, 10% cash equivalents, 27% GICs, 10% annuities and 1% in liquidation and accrued contribution assets.

Balanced managers: T. Rowe Price; Thorndike, Doran; INVESCO Capital; Metropolitan Life; Travelers Insurance; Sperry Capital; Wells Fargo Bank.

Chase Manhattan Bank is master trustee.

Patricia Hennessy, senior financial analyst, has investment management responsibilities for the funds.

t

Teachers Insurance and Annuity Association — College Retirement Equities Fund

	($ millions)
Total assets	40,000
Defined contribution	40,000
Employer contributions	2,400
Benefit payments	650

NEW YORK — TIAA-CREF, the largest pension fund in the nation, grew 15.9% to $40 billion on Sept. 30 from $34.5 billion a year earlier.

Of the total, $22 billion in fixed-income investments is managed by TIAA, and $18 billion in equity investments is managed by CREF.

In 1986, the fund is planning to add a money market fund and a marked-to-market bond fund to CREF, allowing participants to switch between those new funds and the equity fund.

In December, the fund, which has a long-standing policy of encouraging U.S. companies doing business in South Africa to sign the Sullivan Principles, stepped up pressure by seeking to force 20 companies, through proxy resolutions, to sign the Sullivan Principles or close South African operations.

All of the fund's assets are managed internally.

Of the $18 billion under CREF's management, $12.5 billion is indexed.

TIAA-CREF has $1.9 billion invested in non-domestic equities and $147 million in fixed-income foreign markets.

Of the $22 billion under TIAA's management, $1.116 billion is in equity real estate and $8.921 billion is in mortgages.

The overall asset mix, as of Sept. 30, was 45% stocks, 26% bonds, 2% cash; 3% equity real estate, 23% mortgages, and 1% mortgage-backed securities.

Bankers Trust and Chase Manhattan are the custodians for CREF; Morgan Guaranty and Citibank are the custodians for TIAA.

Key personnel are James S. Martin, executive vice president, CREF investments; Henry A. Frantzen, senior vice president, CREF international; and J. Daniel Lee Jr., executive vice president, TIAA investments.

Teamsters, Central States, Southeast and Southwest Areas Pension Fund

	($ millions)
Total assets	5,775
Defined benefit	5,775
Employer contributions	667
Benefit payments	642

CHICAGO — Assets of the Teamsters, Central States fund increased 11.7% to $5.775 billion as of Sept. 30 from $5.169 billion the previous year. Fund officials attributed the rise to market performance.

Employer contributions rose 7.9% in 1985 to $667 million from $618 million the previous year. The plan paid out $642 million in benefits in 1985, up 8.3% from $593 million the previous year.

Under the direction of Morgan Stanley, its named fiduciary, the Central States fund moved from an active stock strategy to an indexed approach. It dropped active equity managers, Alliance, McCowen and MacKay-Shields, and hired Mellon Capital and Bankers Trust, assigning them a total of $1.5 billion to run in stock index funds. It also set up a $200 million special index fund with Mellon, investing passively in American multinational companies.

It scrapped its $1.03 billion in dedicated and immunized bonds and set up a $900 million indexed bond fund with an existing manager, State Street Bank.

The fund dropped Victor Palmieri as a real estate manager, turning over its assets to the two remaining realty managers. Central States' intention is to ultimately sell off its existing real estate assets, though it might, under Morgan Stanley's direction, make new real estate investments.

The fund's asset mix as of Sept. 30 was 48% stocks, 27% bonds, 10.2% cash equivalents, 0.4% real estate equity, 3.4% mortgages and 11% mortgage-backed securities.

Among its assets are $117.7 million in real estate, consisting of $23.7 million in equity and $194 million in mortgages. Its various stock indexed funds rose to $1.936 billion, including market appreciation. Plus, it had $900 million in indexed bonds.

Equity managers: BEA Associates; Equitable Life Assurance; Mellon Capital; Bankers Trust.

Fixed-income managers: Fiduciary Trust; Lincoln Income Group; Miller Anderson & Sherrerd; Morgan Guaranty; Putnam Advisory; T. Rowe Price; State Street Bank.

Real estate managers: Thomas L. Karsten; Eastdil Realty.

The Central States runs $45 million in short-term investments in-house.

The fund's custodian is State Street Bank.

Morgan Stanley, as named fiduciary, oversees the fund.

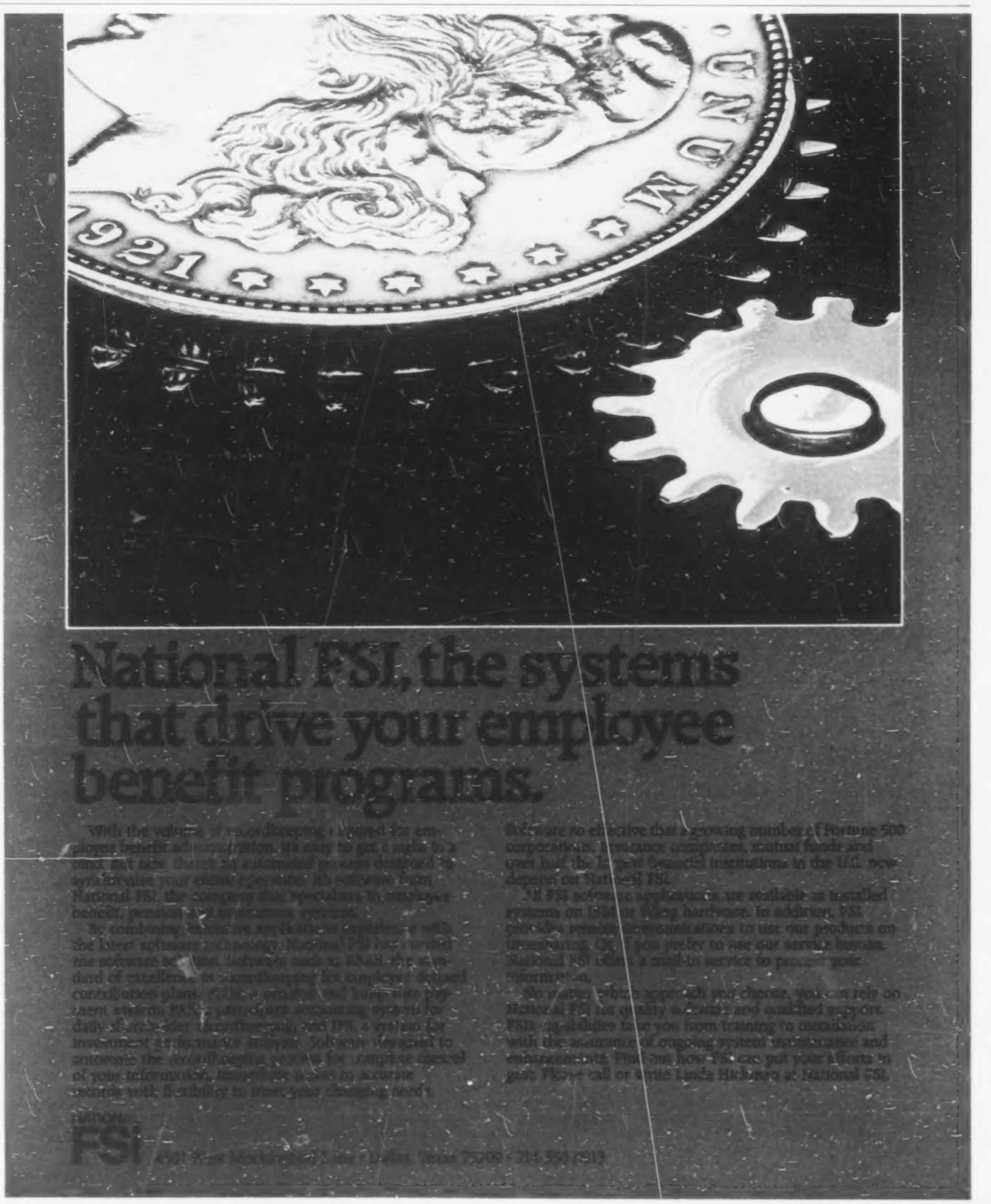
The key personnel at the Central States are George W. Lehr, executive director; Robert M. Warner, finance director; and Terrence S. Moloznik, director-asset monitoring.

Teamsters, Western Conference

	($ millions)
Total assets	5,929
Defined benefit	5,929
Employer contributions	475
Benefit payments	460

SEATTLE — The Western Conference of Teamsters Pension Trust Fund assets totaled $5.929 billion as of Sept. 30, an increase of 15.6% from the $5.129 billion reported a year earlier.

As of Sept. 30, the trust had $2.023 billion in what it calls a



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fixed-dollar account with Prudential Life Insurance.

It had another $2.552 billion in a dedicated bond fund, $490 million in a non-dedicated bond fund, $14 million in a money market account, $662 million in real estate equity and $138 million in mortgages. The remainder is in cash, according to an official with the system.

All assets are managed by Prudential.

Bank of America and Prudential are the master trustees.

Key personnel overseeing investment management are Owen Bennett and Joseph Ballew, trust co-chairmen.

Tennessee Consolidated Retirement System

	($ millions)
Totai assets	4,249
Defined benefit	4,249
Employer contributions	175
Benefit payments	145

NASHVILLE, Tenn. — For the year ended Sept. 30, the total assets of the Tennessee Consolidated Retirement System increased 25% to $4.249 billion from $3.4 billion the previous year.

All of the fund's assets are managed internally. As of Sept. 30, the asset mix was 36% stocks, 54% bonds and 10% cash equivalents.

The fund invests $40 million in foreign equities and uses stock and bond options.

Chase Manhattan Bank is custodian for the Tennessee system.

Key personnel are Dewey Collins Jr., chief investment officer, and Rodney G. Baxter and Maurice Kellogg, portfolio managers.

Employees Retirement System of Texas

	($ millions)
Total assets	3,300
Defined benefit	3,300
Employer contributions	173
Benefit payments	116

AUSTIN, Texas — The Employees Retirement System of Texas had assets of $3.3 billion on Sept. 30, 1985, an increase of 34.2% over the $2.459 billion of Aug. 31, 1984.

Employer contributions increased for the year by 14.6%, to $173 million from $151 million. Benefit payouts for 1985 rose 13.7%, to $116 million from $102 million.

All the system's assets are managed internally. INVESCO Capital is the system's equity adviser. Duff & Phelps serves as fixed-income adviser. The state treasurer is custodian of the fund.

The asset mix of the system's pension assets on Sept. 30 was 20% stocks, 69% bonds, 2% cash and 9% mortgage-backed securities.

Clayton T. Garrison is the executive director of the system. Nancy G. Goerdel is director of investments.

Texas Teacher Retirement System

	($ millions)
Total assets	11,188
Defined benefit	11,188
Employer contributions	546
Benefit payments	589

AUSTIN, Texas — Total market value of employee benefit assets of the Teacher Retirement System of Texas increased 14.7% for the 12 months ended Sept. 30 to $11.188 billion from $9.753 billion. The employer contribution rose 11%, to $546 million from $492 million a year earlier. Benefit payouts rose 15%, to $589 million from $512 million.

All the system's assets are managed internally.

During 1985, the fund committed $42 million to a participating mortgage loan through L.J. Melody, raising the fund's allocation to real estate to about 6% of assets. The fund has a total of $681 million invested in mortgages.

The asset mix as of Sept. 30 was 30% stocks; 39% bonds; 22% mortgage-backed securities; 6% mortgages and 3% cash equivalents.

Bruce Hineman is executive secretary of the fund; Clark Manning is deputy executive secretary.

Funds investing overseas
($ millions)

Fund	Assets
TIAA-CREF	$2,047
United Nations Joint Staff	1,489
GTE	667
AT&T	551
General Electric Co.	460
Ameritech	430
E.I. du Pont de Nemours	404
United Technologies Corp.	332
Ford Motor Co.	330
World Bank	307
Prudential Insurance	306
Exxon Corp.	226
Allied-Signal Inc.	200
Oregon Public Employees	193
Sun Company Inc.	175
Caterpillar Tractor Co.	160
Owens-Illinois	152
Monsanto Co.	150
Xerox Corp.	144
Sears, Roebuck & Co.	129
Hawaii Employees	125
Minnesota Mining & Mfg.	121
Alaska State Systems	117
Amoco Corp.	112
Honeywell Inc.	109
FMC Corp.	100
TRW Inc.	95
Citicorp	93
Delta Air Lines Inc.	90
Florida Dept. of Admin.	88
Aluminum Co. of America	82
RCA Corp.	80
Dart & Kraft Inc.	78
American Airlines	70
American Stores	70
Hercules Inc.	70
Dow Chemical Co.	64
Florida Power & Light	62
Aetna Life & Casualty	61
Commonwealth Edison Co.	60
Travelers Insurance Co.	60
Eaton Corp.	55
U S WEST	53
ITT Corp.	53
Cooper Industries Inc.	50
Sperry Corp.	50
Inland Steel Co.	50
American Can Co.	46
Goodyear Tire & Rubber Co.	46
Tennessee Consolidated	40
Southwestern Bell Corp.	40
Presbyterian Church	38
Conoco Inc.	33
Halliburton Co.	32
Martin Marietta Corp.	30
Philip Morris	30
Phillips Petroleum Co.	30
Unocal Corp.	28
Bethlehem Steel Corp.	26
Deere & Co.	26
International Paper	25
Illinois Teachers System	22
Ashland Oil	20
Episcopal Church	20
Armco Inc.	20
Southern California Edison	19
Eli Lilly & Co.	17
Pan American World Airways Inc.	15
Trans World Airlines Inc.	15
CIGNA Corp.	15
PPG Industries Inc.	14
Pennsylvania State Employees	13
R.J. Reynolds	12
General Foods Corp.	9
Chicago Municipal Employees	6
KMI Continental	6
Detroit Retirement Systems	2
United Air Lines	NA
Total	**$11,665**

U

Union Carbide Corp.

	($ millions)
Total assets	2,800
Defined benefit	2,800
Employer contributions	4
Benefit payments	150

DANBURY, Conn. — Union Carbide Corp.'s pension assets will shrink by possibly 90% this year to $300 million from $2.8 billion after the Pension Benefit Guaranty Corp.'s approval in late November 1985 of a spinoff/termination.

Carbide is recapturing $500 million of its $800 million in surplus pension assets and is leaving the remaining $300 million in the continuing plan.

Carbide had announced plans to terminate and recover part of the surplus last summer as part of a corporate restructuring. The battle for control of Carbide, however, leaves the status of the continuing plan in doubt as its suitor, GAF Corp., fights for the right to use the remaining pension surplus to help finance its takeover.

As of Sept. 30, Carbide had defined benefit plan assets totaling $2.8 billion, up 12% from the $2.5 billion reported a year earlier.

The fund manages all of its assets internally.

Its asset mix as of Sept. 30 was 15% stocks, 65% bonds, 15% cash equivalents, 2% annuities, 1.5% real estate equity and 1.5% mortgages.

Among its assets are $40 million each in real estate equity and mortgages. It uses stock and bond options, stock index futures and fixed-income futures.

The fund's master trustee is Manufacturers Hanover Trust Co.

Overseeing the fund are James A. O'Connell, assistant treasurer and director-pension fund investment, and W.V. Ferdinand, manager-investments.

United Air Lines Inc.

	($ millions)
Total assets	3,411*
Defined benefit	2,845
Defined contribution	566
Employer contributions	na
Benefit payments	na

*as of June 30, 1985

CHICAGO — United Air Lines Inc. had $3.4 billion in employee benefit assets as of June 30, according to the 1986 Money Market Directory. That represented a 2.5% decrease from the $3.5 billion reported Sept. 30, 1984.

However, effective July 10, United terminated five pension plans with assets totaling $1.6 billion, reaping a reversion of $962.2 million.

United declined to provide post-termination asset figures.

Another termination, effective Sept. 3, of a plan with $81.5 billion in assets brought a reversion of $27 million. The Air Line Pilots Association filed a lawsuit in an attempt to block termination of the plan for pilots.

In June, when the company announced its intent to terminate, a spokesman did say assets of existing plans would stay very low until the next scheduled contribution. United terminated the plans largely to ward off hostile takeovers and to help finance expansion plans.

In announcing the termination, United officials said they had no plans to change the manager lineup. Before the termination, United did change its master trustee, replacing Harris Trust & Savings Bank with National Bank of Detroit.

As of June 30, the approximate asset mix was 57% stocks, 10% bonds, 22% general insurance accounts, 6% international investments and 5% real estate equity.

Managers: Baring International; CIGNA Asset Advisers; Jennison; LaSalle Advisors; LaSalle Street Fund; Morgan Grenfell; New England Mutual Life; Nikko; Pioneering Management; Frank Russell; Fayez Sarofim; Sit Investment; Batterymarch; Capital Guardian; Discount Corp. of New York; G.T. Capital; Lincoln Capital; Thorndike, Doran, Paine & Lewis; Trinity; Wells Fargo.

Key investment personnel are John M. Batten, vice president and treasurer, and Robert J. Gillette, director-pension investment management.

United Mine Workers of America Health & Retirement Funds

	($ millions)
Total assets	3,398
Defined benefit	3,398

BABSON
FIXED INCOME
ADVISORS,
Inc.

David L. Lindsay
President

An affiliate of
David L. Babson & Co., Inc.
Boston, Massachusetts

Employer contributions	525
Benefit payments	405

WASHINGTON — Key personnel shifts occurred in the United Mine Workers of America Health & Retirement Funds during 1985.

Jerry N. Clark was named executive director, replacing Herbert L. Dyer. Charles S. Stephens, formerly assistant controller and corporate pension officer at Celanese, was appointed director of investments, succeeding Linda R. Taylor, who had moved to the International Union of Operating Engineers pension fund.

In addition, the UMWA 1974 plan trustees are working to spin off a new plan for construction workers covered by the union in spring 1986. The new plan is expected to start with between $75 million and $80 million in assets.

During the 12 months ended Sept. 30, the fund dropped bond managers Argus, CM&M Asset Management and Degnan & Gillespie, and equity manager Forstmann-Leff. In addition, it established an internally managed indexed bond portfolio; the fund had $170 million in assets in the portfolio as of Sept. 30. It also manages $120 million in short-term investments in-house.

Equity managers: Batterymarch; Torray Clark; Pioneering; Warburg, Pincus; Argus; Thompson, Siegel & Walmsley; Denver Investment Advisors; Tower Capital.

Bond managers: Criterion; Lehman; Loomis, Sayles; Starbuck, Taylor, Tisdale & Williams; T. Rowe Price; J.P. Morgan.

Real estate managers: Equitable; Goldman, Sachs; Metropolitan; Prudential; RREEF; State Street; TCW Realty.

Cash manager: Bankers Trust.

As of Sept. 30, the UMWA had $3.398 billion in retirement plan assets, up 22.1% from the Sept. 30, 1984, level of $2.784 billion.

The asset mix was 31% stocks, 35% bonds, 23% cash equivalents, 6% real estate equity and 5% mortgage-backed securities.

The fund also maintains $1.079 billion in a hybrid dedicated immunized bond portfolio established in 1982. It has committed $236 million to real estate.

The fund uses fixed-income futures.

Boston Safe Deposit & Trust is the custodian.

Overseeing the fund are Mr. Clark, Mr. Stephens and Barnard A. Buscemi, assistant director for investments.

United Nations Joint Staff Pension Fund

	($ millions)
Total assets	4,354
Defined benefit	4,354
Employer contributions	373
Benefit payments	366

NEW YORK — The United Nations Joint Staff Pension Fund increased 20.6% in the year ended Sept. 30, to $4.354 billion from $3.61 billion a year earlier.

Employer contributions to the fund in 1985 dipped slightly to $373 million in 1985, from $380 in 1986. Benefit payments increased 14.3%, to $366 million from $320 million in 1984.

The fund is internally managed; Fiduciary Trust Co. of New York provides investment advice. Citicorp had been an adviser to the fund, but that relationship was severed in 1985.

Last summer, the fund sold off its last holdings of South African-related securities, ending a 10-year divestiture process. The total amount divested was not given.

Just less than $1.5 billion was invested internationally: $794 million in equities; $647 million in fixed income; and $48 million in other securities. The fund also has $388 million in real estate equity.

As of Sept. 30, the asset mix was 47.9% equities, 34.5% fixed income, 8.7% short-term cash equivalents and 8.9% real estate equity.

Fiduciary Trust is custodian.

Key investment personnel are Timothy P. Prince, chief-investment management section, and Henry Ouma, senior investment officer.

United Technologies Corp.

	($ millions)
Total assets	5,500
Defined benefit	4,050
Thrift or savings	1,100
Other	35
Employer contributions	221
Benefit payments	na

HARTFORD, Conn. — Employee benefit assets at United Technologies Corp. increased 18.7% to $5.5 billion as of Sept. 30 from the $4.631 billion estimated by *Pensions & Investment Age* a year earlier. Defined benefit assets grew only 8.4%, to $4.05 billion as of Sept. 30 from the $3.735 billion estimated as of Sept. 30, 1984.

Employer contributions to the fund for 1985 totaled $221 million, a 13.3% increase from 1984's $195 million.

This past summer, Frances Primbly was hired as director-pension investments in charge of fixed income for the fund. She was director of trust investments for Schering-Plough Corp., Madison, N.J.

The fund completed the restructuring of its U.S. Master Trust plan, by roughly doubling fixed-income exposure and hiring 10 fixed-income managers, by dropping 10 of its 15 equity managers and adding 13 new ones. The new equity portfolio's style is 30% each value oriented and large-cap and 20% each sector rotation and stock pickers.

Equity managers: Value Line; Wright Investors; Nicholas Applegate; Brignoli, Curley & Roberts; Citibank; Conn. National Bank; CIGNA; Wertheim Asset Management; Jennison Associates; Lehman Asset; TCW; Sanford C. Bernstein; Bankers Trust; HLM; Hellman Jordan; Trinity; Management Asset; Olympic.

Bond managers: Morgan Stanley; Scudder, Stevens & Clark; Miller Anderson Sherrerd; Jennison Associates; Loomis, Sayles; W.R. Huff; Delaware Investment Advisors; MacKay-Shields; Neuberger & Berman; Payden & Rygel.

Real estate managers: Citibank; CIGNA; Aetna; Prudential; Eastdil; InterFirst; Lehndorff Babson.

International managers: ABD International; Capital Guardian; Batterymarch; State Street; Schroder Capital; Prudential.

Venture capital: Bridge Capital; Butler Capital; TCW; Morgan Holland; Charles River; Crossroads Advanced Technology; Venture-Tech; Narragansett.

The fund has $175 million in indexed stocks and $30 million in a dedicated or immunized bond portfolio. Another $332 million is in international equities. As part of the overall equity restructuring, three of the 13 equity managers hired were international managers, and one was hired to manage an international index fund.

The fund has $210 million in real estate equity, $50 million in mortgages, $35 million in venture capital and $10 million in oil and gas.

The asset mix as of Sept. 30 was 42% equities, 11% income, 4% cash equivalents, 5% real estate, 34% annuities, 1% mortgages and 3% in private placements and venture capital.

The fund uses stock options and stock index futures.

Citibank is custodian.

Key investment personnel are Beverly L. Hamilton, vice president pension investment and investor relations; and Carl W. Strayer, Ms. Crimbly and Edward Cheney, directors-pension investments.

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Erich G. Weissenberger, Jr. Director of Marketing
Favia, Hill & Associates, Inc., 30 Rockefeller Plaza,
New York, New York 10112. (212) 621-2858

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U.S. Steel and Carnegie Pension Fund

	($ millions)
Total assets	8,000
Defined benefit	7,500
Thrift or savings	500
Employer contributions	na
Benefit payments	na

NEW YORK — Gary Glynn replaced Graham Harrison this year as president of the U.S. Steel and Carnegie Pension Fund. After 30 years with the fund, Mr. Harrison left to become vice president and chief investment officer of the Howard Hughes Medical Institute in Bethesda, Md.

The U.S. Steel fund's assets increased 16.8% as of Sept. 30, to $8 billion from $6.85 billion a year earlier. All assets are managed internally.

The breakout between defined benefit and thrift or savings assets is an estimate. The estimated $500 million in thrift assets includes those of the company's 401(k) plan.

Fund officials declined to give an asset mix for the plan. But data compiled by CDA Technologies Inc. put the Sept. 30 value of equity assets at $4.3 billion, or about 54%. The fund is also believed to have more than $250 million in international investments.

In addition to Mr. Glynn, John Van Deusen, senior vice president, and Peter Lincoln, vice-president-investments, have investment responsibilities for the fund.

U S WEST Inc.

	($ millions)
Total assets	5,675
Defined benefit	4,964
Defined contribution	711
Employer contributions	204
Benefit payments	202

ENGLEWOOD, Colo. — The U S WEST Inc. pension plan went through a partial restructuring during 1985, hiring its first international managers and adding seven equity, three bond and three real estate managers.

The new international managers are Capital Guardian and Putnam International.

The added equity managers were Fayez Sarofim; Mellon Capital; Denver Investment Advisors; PRIMECAP; Brignoli, Curley & Roberts; Trinity Investment; and Concord Capital.

Bond managers hired were NISA, First Interstate and Wells Fargo, and the real estate managers were Equitable, Copley and Security Capital.

Dropped from the equity rolls were Dean Witter, Clarens and First Asset Management, which also was dropped as venture capital manager.

Total assets of the fund as of Sept. 30 were $5.7 billion, a 92% increase from the $2.9 billion of a year earlier. The dramatic increase was due primarily to the final transfer of pension assets following the divestiture of American Telephone & Telegraph Co.

Contributions to employee benefit plans for 1985 totaled $204 million. Benefit payments totaled $202 million, an 11.8% decrease from 1984.

On Sept. 30, the asset mix was 56% stocks, 33% bonds, 4% real estate equity and 7% other.

Among its assets are $864 million in indexed stocks, $345 million in indexed bonds, $1.054 billion in dedicated or immunized bond funds, $53 million in foreign equities, $47 million in venture capital, $1 million in oil and gas and $215 million in real estate equity.

Equity managers: Capital Guardian; David J. Greene; United Capital Management; Wells Fargo; First Manhattan; Fayez Sarofim; Mellon Capital; Denver Investment; PRIMECAP; Brignoli; Trinity; Concord.

Bond managers: NISA; Jennison; Wells Fargo; First Interstate.

Real estate managers: Equitable; Copley; Security Capital; Jones Lang Wootton; TCW Realty; LaSalle Fund II.

Venture capital managers: Citibank; Denver Investment.

International managers: Capital Guardian; Putnam.

Oil and gas manager: Citibank.

The company has master trustee accounts with Boston Safe and Bankers Trust.

James Biundo is director-trust investment management.

Utah State Retirement Fund

	($ millions)
Total assets	2,160
Defined benefit	2,160
Employer contributions	150
Benefit payments	58

SALT LAKE CITY — The Utah State Retirement Fund increased its total assets by 20.5% in the year ended Sept. 30, to $2.16 billion from $1.793 billion.

Contributions of $150 million in 1985 are employer and employee

Funds using futures

Fixed income

Alaska State Systems
American Stores Co.
Amoco Corp.
Ashland Oil
Bechtel Power Corp.
Bell Atlantic Corp.
Caterpillar Tractor Co.
Chevron Corp.
Chrysler Corp.
E.I. du Pont de Nemours
Episcopal Church
Ford Motor Co.
General Elecric Co.
Halliburton Co.
Hercules Inc.
Honeywell Inc.
IBM Corp.
Illinois State Universities
Illinois Teachers
International Paper
Kansas Public Employees
Minnesota Mining & Mfg.
Monsanto Co.
NYNEX Corp.
Ohio State Teachers
Oregon Public Employees
Owens-Illinois Inc.
Philip Morris
Presbyterian Church
RCA Corp.
R.J. Reynolds
Southern California Edison
Teamsters, Western Conference
Texas Instruments Inc.
Travelers Insurance Co.
Union Carbide Corp.
United Mine Workers
Westinghouse Electric Corp.

Stock index

Aluminum Co. of America
American Can Co.
American Stores Co.
Armco Inc.
Bechtel Power Corp.
Bell Atlantic Corp.
Caterpillar Tractor Co.
Chrysler Corp.
Citicorp
Commonwealth Edison Co.
Dart & Kraft Inc.
Dow Chemical Co.
E.I. du Pont de Nemours
Eaton Corp.
Episcopal Church
Exxon Corp.
Florida Dept. of Admin.
GTE Corp.
General Electric Co.
General Foods Corp.
Hercules Inc.
Honeywell Inc.
IBM Corp.
Illinois Teachers
International Paper
Kansas Public Employees
K mart Corp.
Minnesota Mining & Mfg.
Monsanto Co.
Intl. Union of Oper. Eng.
Oregon Public Employees
Owens-Illinois Inc.
Pennsylvania Public School
Philip Morris
R.J. Reynolds
RCA Corp.
Sears, Roebuck & Co.
Southern California Edison
Tenneco Inc.
Texas Instruments Inc.
Trans World Airlines Inc.
Union Carbide Corp.
United Technologies
Westinghouse Electric Corp.
Xerox Corp.

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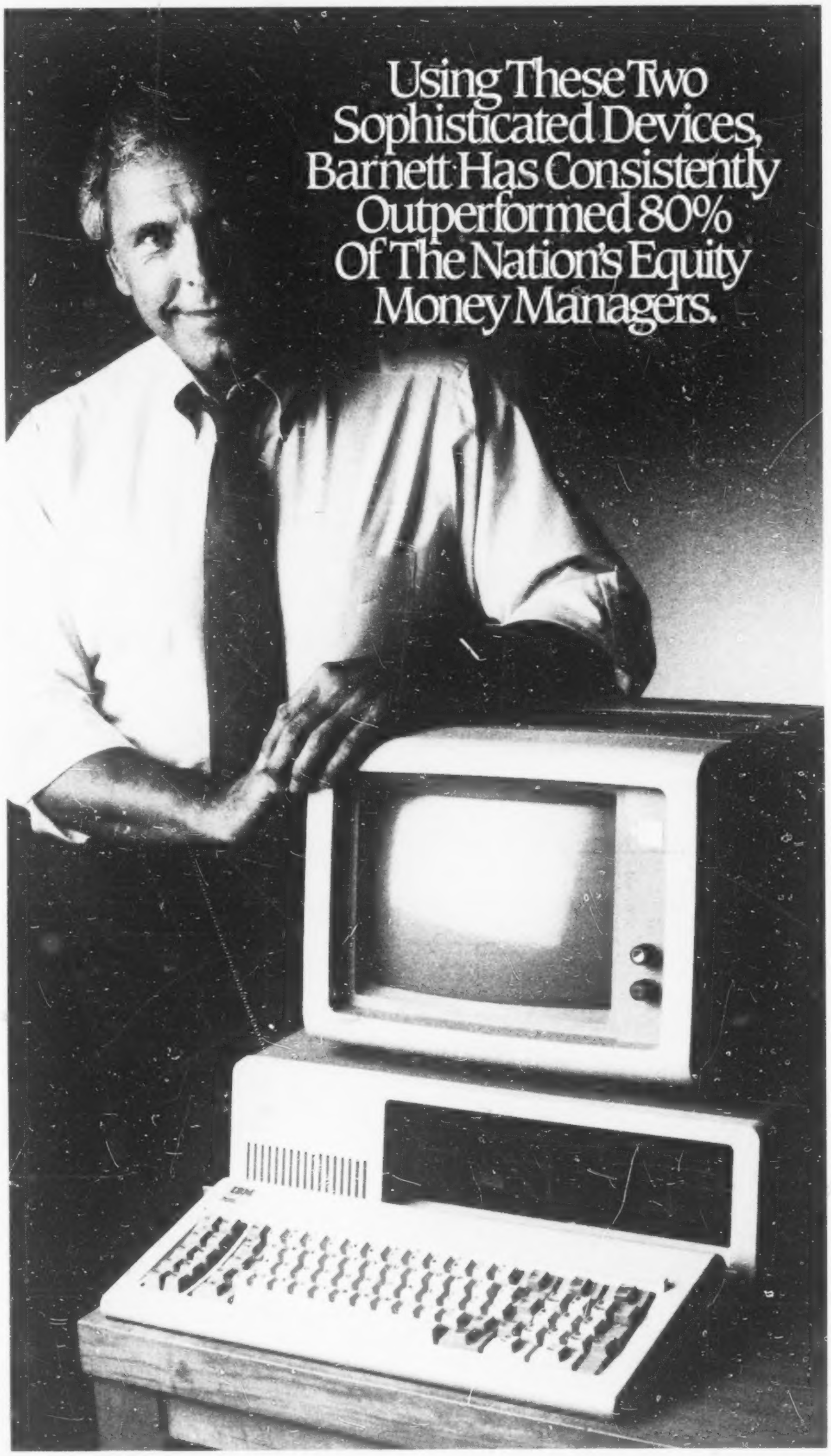
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IBM

contributions.

About 70% — or $1.53 billion — of the fund's assets are managed internally. Of that, $347 million is in equity; $268 million, short-term investments; $869 million, fixed income; and $47 million, real estate.

It has increased assets in indexed stocks 92% to $260 million. It has $15 million in venture capital, $139 in real estate equity and $22 million in mortgages. The fund also uses stock options.

Outside money managers provide investment advice only.

Equity advisers: Atalanta Sosnoff; Capital Consultants; Value Line; Smoot Miller & Cheney; Wasatch Advisors.

Real estate adviser: F.I.A. Associates.

Chemical Bank is the fund's custodian.

The fund's asset mix as of Sept. 30 was 40% stocks, 35% bonds, 12% cash equivalents, 6% real estate equity, 1% mortgages, 6% mortgage-backed securities.

Key personnel are W. Dan Smith, investment officer, and Richard Cherry, assistant investment officer.

V

Virginia Supplemental Retirement System

	($ millions)
Total assets	4,509
Defined benefit	4,509
Employer contributions	650
Benefit payments	330

RICHMOND, Va. — In 1985, the Virginia Supplemental Retirement System started a development fund, which operates like a "farm team," with specialty managers trying to get extra value. Nine managers were hired to run about $200 million.

The nine are Brignoli, Curley & Roberts; Corinthian Capital; Hellman, Jordan; GAMCO Investors; Pacific Financial; Nicolas-Applegate; Schafer Capital; Donald Smith & Co.; TCW Realty.

Timothy R. Barron was named director of investments during the year.

As of Sept. 30, assets grew 25% to $4.509 billion from the $3.595 billion reported a year earlier.

The retirement system runs $1.822 billion internally: $284 million in equities; $266 million in short-term investments; and $1.272 billion in fixed income. During the year, it added two more in-house portfolios, a defensive income portfolio and an index portfolio.

Other equity moves during the year were the termination of MPT Associates and MacKay-Shields Financial Management, and the hiring of Concord Capital Management, Jundt Capen Associates, and McKenzie Walker Investment Management.

Equity managers: Batterymarch; Brignoli, Curley & Roberts; Concord; Corinthian; Delaware Investment; GAMCO; Hellman, Jordan; Jundt/Capen; IDS Advisory; Lincoln Capital; McKenzie Walker; Mellon; Nicholas-Applegate; Pacific Financial; Putnam Advisory; Schafer Capital; Donald Smith & Co.; Wells Fargo Investment Advisors.

Fixed-income manager: Massachusetts Financial Services.

Real estate managers: Equitable; LaSalle; Prudential; RREEF; TCW.

The fund has $891 million in indexed stocks, an increase of 84% due to a shifting of assets internally, and $227 million in equity real estate.

The asset mix as of Sept. 30 was 55% equity, 33% bonds, 7% cash equivalents and 5% equity real estate. Sovran Bank is custodian.

Key personnel are Mr. Barron; Gary Allen, director of internal asset management; and Thomas Hassard, real estate investment officer.

W

Washington State Investment Board

	($ millions)
Total assets	6,749
Defined benefit	6,749
Employer contributions	550
Benefit payments	na

OLYMPIA, Wash. — The Washington State Board of Investment's pension assets increased 25% to $6.749 billion in the 12 months ended Sept. 30 from $5.4 billion.

Employer contributions increased 10% to $550 million during the year from $500 million.

The fund has $1.594 billion in indexed stocks, $198 million in indexed bonds, $100 million invested (and $202 million committed) in venture capital, $260 million in leveraged buy-outs, $123 million in real estate equity and $350 million in mortgages.

It manages $3.271 billion in-house: $2.611 billion in fixed-income (including mortgages) and $660 million in short-term investments.

As of Sept. 30, the asset mix was 44.5% stocks, 33.7% bonds, 9.7% cash equivalents, 1.8% real estate equity, 5.3% in venture capital and leveraged buy-outs and 5% in mortgages.

Equity managers: Mellon Capital; Wells Fargo; Hotchkis & Wiley; Batterymarch; Columbia Management; Schafer Capital; Torray Clark; United Capital.

Real estate managers: Equitable; Smith Barney; Pacific Mutual; RREEF; Copley.

The fund no longer uses Prudential for real estate.

Chase Manhattan is custodian.

John Hitchman is executive director; David Weig is deputy director.

Westinghouse Electric Corp.

	($ millions)
Total assets	4,250
Defined benefit	3,400
Thrift or savings	750
401(k)	100
Employer contributions	155
Benefit payments	370

PITTSBURGH — During 1985, Westinghouse Electric Corp. hired Brignoli, Curley & Roberts for equity management and added four bond managers.

Employee benefit assets at Westinghouse increased 16.4% to $4.25 billion, as of Sept. 30 from $3.65 billion a year earlier.

Defined benefit assets rose 9.7%, to $3.4 billion from $3.1 billion.

Employer contributions increased 6.9% to $155 million in 1985 from $145 million a year earlier. Benefit payments grew 23.3% to $370 million from $300 million.

About 60%, or $2.535 billion of the fund is managed through Westinghouse's investment management subsidiary, Westinghouse Pension Investments. Of that, $540 million was in equities, $1.555 billion was in fixed-income securities and $440 million was in short-term investments.

The fund uses stock and bond options and stock index and fixed-income futures as hedging devices.

The fund has $25 million in venture capital, $515 million in real estate equity and $125 million in mortgages.

Equity managers: Provident Capital; Pittsburgh National Bank; Brignoli, Curley & Roberts; Stralem; Manufacturers Hanover.

Bond managers: Pioneering Management; Putnam Advisors; MacKay-Shields; Equitable Life.

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Real estate managers: Equitable Life, Mellon Real Estate, First Chicago Investment Advisors, Citibank.

The asset mix as of Sept. 30 was 23% stocks, 43% bonds, 15% cash equivalents, 15% real estate equity and 4% mortgages.

Mellon Bank is custodian.

Key investment personnel are R.V. Billings, vice president pension investments and investor relations, T.A. Gudiness, director pension funds, and T.G. Scannell, assistant director pension funds.

Wisconsin State Board of Investment

	($ millions)
Total assets	10,800
Defined benefit	9,200
Defined contribution	1,600
Employer contributions	230
Benefit payments	275

MADISON, Wis. — The Wisconsin State Board of Investment's assets grew 24.3% to $10.8 billion as of Sept. 30 from $8.692 billion a year earlier.

About $1.6 billion of the assets are invested in a manner that has features of a defined contribution plan, in that participants can designate a portion of their contributions to a common stock fund in which they share the investment risk.

Wisconsin began offering employees this option several years ago, but had not reported it as a defined contribution plan before.

However, the fund has stopped giving new participants the option, so it eventually will be phased out.

Employer contributions increased 9.5% to $230 million from $210 million.

Employees also contributed $230 million.

Benefit payments decreased 8.3% to $275 million from $300 million a year ago.

All the assets are managed in-house. The fund has $184 million committed to real estate equity. As of Sept. 30, the approximate asset mix was 40% stocks, 53% bonds, 2.5% mortgage-backed securities, 2.5% cash equivalents and 2% real estate.

Later in the year, the investment board made its first venture capital investments from cash flow, after receiving legislative approval to do so.

Morgan Guaranty is custodian.

Kenneth Codlin is executive director of the fund.

Second 100

The following is an alphabetical listing of the bottom 100 pension funds sponsors as determined by *Pensions & Investment Age* questionnaires.

Aetna Life & Casualty

	($ millions)
Total assets	1,587
Defined benefit	1,086
401(k)	485
Other	16
Employer contributions	29
Benefit payments	33
In-house assets:	
Equities	495
Fixed income	365
Short term	2
Other	224
Passive investments:	
Invested in GICs	53
International investments:	
Equity	61
Alternative investments:	
Real estate equity	72
Mortgages	16
Asset mix:	
Stocks	51.2%
Bonds	6.9%
Cash equivalents	0.2%
Real estate equity	6.6%
Mortgages	1.5%
GICs	4.9%
Annuities	28.7%

Aluminum Co. of America

	($ millions)
Total assets	2,051
Defined benefit	1,790
Thrift or savings	261
Employer contributions	160
Benefit payments	155
Passive investments:	
Equity indexing	424
Invested in GICs	34
International investments:	
Equity	61
Fixed income	21
Alternative investments:	
Venture capital	35
Real estate equity	106
Asset mix:	
Stocks	57%
Bonds	22%
Cash equivalents	11%
Real estate equity	6%
Mortgage-backed securities	2%
GICs	2%

American Can Co.

	($ millions)
Total assets	1,014
Defined benefit	904
Profit-sharing	48
Thrift or savings	62
Employer contributions	76
Benefit payments	100
In-house assets:	
Fixed income	200
Passive investments:	
Dedicated bond funds	200
International investments:	
Equity	46
Alternative investments:	
Real estate equity	55
Asset mix:	
Stocks	47%
Bonds	27%
Cash equivalents	19%
Real estate equity	7%

American Stores Co.

	($ millions)
Total assets	1,105
Defined benefit	218
Profit-sharing	601
Thrift or savings	86
401(k)	200
Employer contributions	na
Benefit payments	na
International investments:	
Equity	70
Asset mix:	
Stocks	60%
Bonds	40%

Arkansas Teacher Retirement System

	($ millions)
Total assets	1,134
Defined benefit	1,134
Employer contributions	75
Benefit payments	58
In-house assets:	
Short term	68
Alternative investments:	

Funds investing in GICs

($ millions)

Fund	Assets
Ford Motor Co.	$1,100
Eastman Kodak	783
Procter & Gamble	730
Sperry Corp.	586
Southern Baptist Church	600
N.Y.C. Retirement Systems	572
Chevron Corp.	456
Travelers Insurance Co.	420
Getty Oil	367
Detroit Retirement Systems	331
Monsanto Co.	300
United Methodist	300
Dresser Industries	280
Trans World Airlines Inc.	270
General Foods Corp.	260
General Electric Co.	247
Presbyterian Church	232
Dart & Kraft Inc.	230
K mart Corp.	203
General Dynamics Corp.	200
RCA Corp.	200
Halliburton Co.	194
Boilermakers & Blacksmiths	183
McDermott International Inc.	174
Intl. Union of Oper. Eng.	155
Phillips Petroleum Co.	152
Bakery & Confectionery	147
Hawaii Employees Systems	142
Hercules Inc.	141
Ashland Oil	122
ITT Corp.	118
Delta Air Lines Inc.	115
Southern California Edison	115
Inland Steel Co.	106
Colorado Public Employees	103
Cooper Industries Inc.	100
Honeywell Inc.	96
Tennessee Valley Authority	92
Martin Marietta Corp.	87
Sun Co. Inc.	78
Connecticut Trust Funds	74
Shell Oil Co.	69
Bethlehem Steel Corp.	57
Texaco Inc.	55
FMC Corp.	54
Aetna Life & Casualty	53
International Paper	50
Southern Co. Services Inc.	50
Conoco Inc.	46
Baltimore Employees	40
Aluminum Co. of America	34
Pacific Gas & Electric Co.	33
Armco Inc.	31
International Harvester Co.	25
Florida Power & Light	22
Alabama Retirement Systems	20
American Airlines	20
Indiana State Teachers	20
Mass. Employees & Teachers	20
Illinois State Universities	16
North American Philips	10
PPG Industries Inc.	10
Total	**$11,996**

THERE'S NO MORE
EASY MONEY
IN REAL ESTATE

Now you have to earn it by creating value.

Today's U.S. real estate investment marketplace is no longer driven by the inflation and supply/demand pressures which pushed values up along a broad front and made it look as though almost anybody could be a winner.

Real estate continues to be a promising and vital part of a balanced institutional investment portfolio, but it must be approached with appropriate expectations.

The greatest opportunities lie in the creation of additional value through active, intensive management and development of well-selected properties that are underperforming.

This "creation of value" approach, which drives performance independent of inflation, is the basic philosophy of Schroder Real Estate Associates in our real estate advisory services for pension fund clients and in our other specialized investment vehicles. We emphasize underperforming retail, office, and light industrial properties in built-up locations that can respond to our direct, hands-on style of active ownership–refurbishment, expansion, remerchandising and other value-enhancing strategies.

Schroder Real Estate has approximately $1,000,000,000 in equity real estate under management for more than 100 major pension funds, institutions and corporations, either as direct investors or as participants in commingled real estate vehicles. We have been advising on real estate investments since 1972 and managing real estate assets for pension funds since 1975. We are an acknowledged leader in the expansion and refurbishment of shopping centers and office buildings throughout the United States. More than 100 staff professionals in our various U.S. offices include an extensive in-house property and construction management and leasing capability devoted to value creation in all our investments.

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(212) 486-9800
Call John F. Emmanuel, senior vice president

Mortgages	38
Asset mix:	
Stocks	40.6%
Bonds	46.6%
Cash equivalents	7.2%
Mortgages	3.6%
Mortgage-backed securities	2%

Armco Inc.

	($ millions)
Total assets	1,529
Defined benefit	1,343
Profit-sharing	17
Thrift or savings	165
Other	4
Employer contributions	106
Benefit payments	160
In-house assets:	
Fixed income	394
Short term	79
Other	89
Passive investments:	
Equity indexing	89
Dedicated bond funds	394
Invested in GICs	31
International investments:	
Equity	20
Alternative investments:	
Venture capital	19
Real estate equity	196
Asset mix:	
Stocks	37.6%
Bonds	29.4%
Cash equivalents	5.9%
Real estate equity	14.6%
GICs	2.3%
Other	10.2%

Ashland Oil Inc.

	($ millions)
Total assets	922
Defined benefit	636
Profit-sharing	2
Thrift or savings	268
Other	16
Employer contributions	12
Benefit payments	18
In-house assets:	
Fixed income	56
Passive investments:	
Invested in GICs	122
International investments:	
Equity	15
Fixed income	5
Alternative investments:	
Real estate equity	13
Mortgages	21
Asset mix:	
Stocks	33%
Bonds	20%
Cash equivalents	15%
Real estate equity	2%
Mortgages	3%
Mortgage-backed securities	3%
GICs	19%
Annuities	5%

Bakery & Confectionery Union Pension Fund

	($ millions)
Total assets	1,317
Defined benefit	1,317
Employer contributions	134
Benefit payments	110
Passive investments:	
Invested in GICs	147
Asset mix:	
Stocks	34.5%
Bonds	39%
Cash equivalents	8.5%
Mortgages	5%
GICs	9%
Other	4%

Baltimore Employees' Retirement System

	($ millions)
Total assets	920
Defined benefit	920
Employer contributions	27
Benefit payments	45
Passive investments:	
Invested in GICs	40
Asset mix:	
Stocks	45%
Bonds	42%
Cash equivalents	8.1%
Mortgages	0.5%
GICs	4.4%

Bechtel Power Corp.

	($ millions)
Total assets	1,100
Defined contribution	1,100
Employer contributions	na
Benefit payments	na
In-house assets:	
Fixed income	50
Short term	125
Asset mix:	na

Boilermakers, Blacksmiths National Pension Trust

	($ millions)
Total assets	1,604
Defined benefit	1,604
Employer contributions	58
Benefit payments	65
In-house assets:	
Short term	14
Passive investments:	
Dedicated bond funds	90
Invested in GICs	183
Alternative investments:	
Real estate equity	177
Mortgages	3
Asset mix:	
Stocks	36.8%
Bonds	32.8%
Cash equivalents	7.8%
Real estate equity	11%
Mortgages	0.2%
GICs	11.4%

Chicago Municipal Employees' Annuity and Benefit Funds

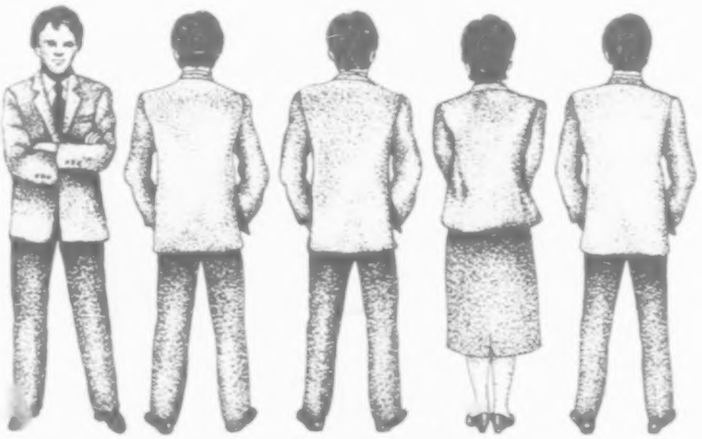
	($ millions)
Total assets	1,500
Defined benefit	na
Defined contribution	na
Employer contributions	70
Benefit payments	89
Passive investments:	
Equity indexing	29
Dedicated/immunized	370
International investments:	
Fixed income	6
Alternative investments:	
Venture capital	35
Real estate equity	50
Mortgages	110
Asset mix:	
Stocks	31%
Bonds	30%
Cash equivalents	8%
Real estate equity	4%
Mortgages	11%
Mortgage-backed securities	11%
Annuities	3%
Venture capital	2%

CIGNA Corp.

	($ millions)
Total assets	1,002
Defined benefit	762
Profit-sharing	90
401(k)	150
Employer contributions	55
Benefit payments	10
In-house assets:	
Equities	457
Fixed income	304
Short term	0.3
Other	0.7
International investments:	
Equity	9
Fixed income	6
Alternative investments:	
Real estate equity	30.4
Mortgages	76
Asset mix:	
Stocks	56%
Bonds	20%
Real estate equity	4%
Mortgages	10%
Private placements	10%

Citicorp

	($ millions)
Total assets	1,432



Four Out of Five Institutional Fund Managers Are Avoiding Something

Or perhaps overlooking it. Mortgage-backed securities constitute the most attractive and rapidly growing sector within the fixed-income area. Given current trends, they have the potential eventually to become the largest portion of the entire debt market. Yet, roughly four out of five fixed-income fund managers have avoided this compelling segment altogether.

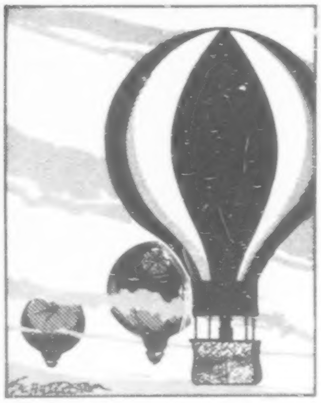
Are mortgage-backed products exactly right for your portfolio? Without knowing you and your objectives, it's difficult to say. But, despite the perceived complexity surrounding mortgage-backed securities, they have been the best performing segment of the high-quality, high-liquidity debt market over the last ten years. Their strong quality, yield, and liquidity characteristics can make them an important component of many portfolios.

First Boston Asset Management is ready to share an in-depth assessment of the suitability of mortgage-backed securities for particular clients. Our small group of successful investment professionals can draw on uncommon experience in the mortgage-backed area, and is in a position to offer superior analytical perspectives.

Providing valuable viewpoints on appropriate product opportunities is only one of the many ideas helping First Boston Asset Management create a new standard of excellence in investment management. We urge you to call or write Mr. Michael Holland, President, to hear some of the others. Or, send for our introductory brochure.

First Boston Asset Management Corporation, 12 East 49th Street, New York, New York 10017, (212) 909-4525

First Boston
Asset Management Corporation



Defined benefit	1,060
Defined contribution	372
Employer contributions	8
Benefit payments	30
In-house assets:	
Equities	1,002
Fixed income	272
Short term	43
Other	115
Passive investments:	
Equity indexing	20
International investments:	
Equity	73
Fixed income	20
Alternative investments:	
Venture capital	5
Real estate equity	23
Mortgages	60
Assct mix:	
Stocks	70%
Bonds	19%
Cash equivalents	3%
Real estate equity	2%
Mortgages	6%

Commonwealth Edison

	($ millions)
Total assets	1,401
Defined benefit	1,401
Employer contributions	na
Benefit payments	na
In-house assets:	
Equities	638
Fixed income	598
Short term	93
International investments:	
Equity	44
Fixed income	16
Alternative investments:	
Oil and gas	0.5
Asset mix:	
Stocks	48%
Bonds	45%
Cash equivalents	6.5%
Other	0.5%

Conoco Inc.

	($ millions)
Total assets	1,729
Defined benefit	523
Thrift or savings	1,101
Other	105
Employer contributions	82
Benefit payments	300
Passive investments:	
Invested in GICs	46
International investments:	
Equity	31
Fixed income	2
Alternative investments:	
Venture capital	29
Real estate equity	65
Mortgages	18
Asset mix:	
Stocks	64%
Bonds	11%
Cash equivalents	1%
Real estate equity	12%
Mortgages	1%
Mortgage-backed securities	2%
GICs	9%

Consolidated Edison of New York

	($ millions)
Total assets	1,735
Defined benefit	1,635
401(k)	100
Employer contributions	na
Benefit payments	na
Asset mix	na

Cooper Industries Inc.

	($ millions)
Total assets	1,150
Defined benifits	800
Defined contribution	335
401(k)	15
Employer contributions	na
Benefit payments	na
Passive investments:	
Equity indexing	200
Dedicated bond funds	100
Invested in GICs	100
International investments:	
Equity	50
Alternative investments:	
Real estate equity	50
Asset mix:	
Stocks	35%
Bonds	20%
Cash equivalents	25%
Real estate equity	5%
GICs	10%
Annuities	5%

Dart & Kraft Inc.

	($ millions)
Total assets	1,552
Defined benefit	1,114
Defined contribution	438
Employer contributions	28
Benefit payments	61
In-house assets:	
Equities	31
Fixed income	8
Short term	50
Passive investments:	
Dedicated bond funds	47
Invested in IPGs	230
International investments:	
Equity	71
Fixed income	1
Other	7
Alternative investments:	
Venture capital	13
Asset mix:	
Stocks	44.2%
Bonds	12.9%
Cash equivalents	22.2%
IPGs	20.7%

Deere & Co.

	($ millions)
Total assets	1,844
Defined benefit	1,809
401(k)	35
Employer contributions	102
Benefit payments	140
In-house assets:	
Equities	1,050
Fixed income	250
Passive investments:	
Equity indexing	800
Fixed-income indexing	250
International investments:	
Equity	26
Alternative investments:	
Venture capital	17
Real estate equity	19
Asset mix:	
Stocks	75%
Bonds	25%

Dow Chemical Co.

	($ millions)
Total assets	1,620
Defined benefit	1,400
Thrift or savings	220
Employer contributions	110
Benefit payments	110
In-house assets:	
Equities	285
Fixed income	132
Short term	42
Other	71
Passive investments:	
Equity indexing	63
Dedicated bond funds	90
International investments:	
Equity	64
Alternative investments:	
Venture capital	20
Asset mix:	
Stocks	53%
Bonds	34%
Real estate equity	13%

Dresser Industries Inc.

	($ millions)
Total assets	900
Defined benefit	880
Thrift or savings	10
401(k)	10
Employer contributions	25
Benefit payments	24
In-house assets:	
Equities	40
Fixed income	26
Short term	4
Other	280

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They can make a big difference for you.

Mellon Real Estate
Investment Management Corporation

Other	280
Passive investments:	
Invested in GICs	280
Alternative investments:	
Venture capital	20
Real estate equity	42
Asset mix:	
Stocks	32%
Bonds	10%
Cash equivalents	15%
Real estate equity	5%
GICs	33%
Annuities	5%

Eastern Air Lines Inc.

	($ millions)
Total assets	1,570*
Defined benefit	1,570
Employer contributions	na
Benefit payments	na

*P&I Age estimate

In-house assets:	
Equities	32
Alternative investments:	
Real estate equity	199
Asset mix:	
Stocks	62.3%
Bonds	23.2%
Cash equivalents	1.9%
Real estate equity	12.6%

Eaton Corp.

	($ millions)
Total assets	955
Defined benefit	760
Thrift or savings	195
Employer contributions	45
Benefit payments	50

In-house assets:	
Equities	96
Short term	15
Passive investments:	
Equity indexing	125
Dedicated bond funds	56
International investments:	
Equity	55
Alternative investments:	
Venture capital	8
Asset mix:	
Stocks	70.1%
Bonds	6.5%
Cash equivalents	23.4%

Episcopal Church Pension Fund

	($ millions)
Total assets	1,010
Defined contribution	1,010
Employer contributions	40
Benefit payments	30

In-house assets:	
Short term	50
International investments:	
Equity	10
Fixed income	10
Alternative investments:	
Oil and gas	10
Asset mix:	
Stocks	55%
Bonds	35%
Cash equivalents	3%
Real estate equity	3%
Mortgages	3%
Other	1%

Florida Power & Light

	($ millions)
Total assets	1,058
Defined benefit	738
Defined contribution	132
Thrift or savings	188
Employer contributions	43
Benefit payments	10

Passive investments:	
Equity indexing	153
Invested in GICs	22
International investments:	
Equity	62
Alternative investments:	
Real estate equity	26
Asset mix:	
Stocks	65.2%
Bonds	17.1%
Cash equivalents	11.3%
Real estate equity	3.5%
GICs	2.9%

FMC Corp.

	($ millions)
Total assets	1,300
Defined benefit	1,052
401(k)	248
Employer contributions	10
Benefit payments	40

In-house assets:	
Equities	11
Fixed income	5
Passive investments:	
Dedicated bond funds	76
Invested in GICs	54
International investments:	
Equity	100
Alternative investments:	
Venture capital	40
Asset mix:	
Stocks	78%
Bonds	11%
Cash equivalents	2%
GICs	5%
Other	4%

General Foods Corp.

	($ millions)
Total assets	1,855
Defined benefit	1,526
Defined contribution	320
Other	9
Employer contributions	0
Benefit payments	38

Passive investments:	
Equity indexing	315

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Full-service offices and plants in New York, Atlanta, Boston, Chicago, Dallas, Houston, Los Angeles, San Francisco and Washington, D.C.
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Invested in GICs	260
International investments:	
Equity	9
Alternative investments:	
Venture capital	18
Real estate equity	73
Asset mix:	
Stocks	53%
Bonds	14%
Cash equivalents	10%
Real estate equity	5%
GICs	17%
Venture capital	1%

Getty Oil

	($ millions)
Total assets	1,230
Defined benefit	781
401(k)	389
Other	60
Employer contributions	na
Benefit payments	na
In-house assets:	
Cash	151
Passive investments:	
Equity indexing	12
Invested in GICs	367
Asset mix:	
Stocks	40%
Bonds	7%
Cash equivalents	19%
GICs	34%

Grumman Corp.

	($ millions)
Total assets	1,953
Defined benefit	1,392
Thrift or savings	561
Employer contributions	80
Benefit payments	50
In-house assets:	
Equities	546
Fixed income	532
Short term	223
Alternative investments:	
Venture capital	25
Real estate equity	78
Asset mix:	
Stocks	39%
Bonds	32%
Cash equivalents	16%
Real estate equity	5%
Mortgage-backed securities	7%
Other	1%

Halliburton Co.

	($ millions)
Total assets	1,018
Profit-sharing	817
Thrift or savings	167
401(k)	34
Employer contributions	na
Benefit payments	47
In-house assets:	
Equities	92
Fixed income	194
Short term	6
Other	14
Passive investments:	
Invested in GICs	194
International investments:	
Equity	29
Fixed income	3
Alternative investments:	
Mortgages	14
Asset mix:	
Stocks	36%
Bonds	34%
Cash equivalents	9%
Mortgages	1%
GICs	19%
Other	1%

John Hancock Mutual Life Insurance Co.

	($ millions)
Total assets	948
Defined benefit	781
Profit-sharing	134
Thrift or savings	32
401(k)	32
Employer contributions	na
Benefit payments	37
In-house assets:	
Equities	331
Fixed income	282
Short term	47
Other	121
Alternative investments:	
Venture capital	10
Real estate equity	112
Asset mix:	
Stocks	42.4%
Cash equivalents	6%
Real estate equity	14.3%
Mortgages	37.3%

Leasing as corporate financing tool will be examined April 14.

Hercules Inc.

	($ millio
Total assets	1,
Defined benefit	
Thrift or savings	
401(k)	
Employer contributions	
Benefit payments	
Passive investments:	
Equity indexing	
Dedicated bond funds	
Invested in GICs	
International investments:	
Equity	
Alternative investments:	
Real estate equity	
Asset mix:	
Stocks	34
Bonds	1
Cash equivalents	11
Real estate equity	10
GICs	14
International	7
Stock index	2

Honeywell Inc.

	($ millio
Total assets	1,
Defined benefit	1,
Thrift or savings	
401(k)	
Employer contributions	
Benefit payments	
Passive investments:	
Dedicated bond funds	
Invested in GICs	
International investments:	
Equity	
Fixed income	
Alternative investments:	
Venture capital	
Oil and gas	
Real estate equity	
Mortgages	
Asset mix:	
Stocks	4
Bonds	2
Cash equivalents	
Real estate equity	
Mortgages	
GICs	
Venture capital	
Oil and gas	

City of Houston Retirement System

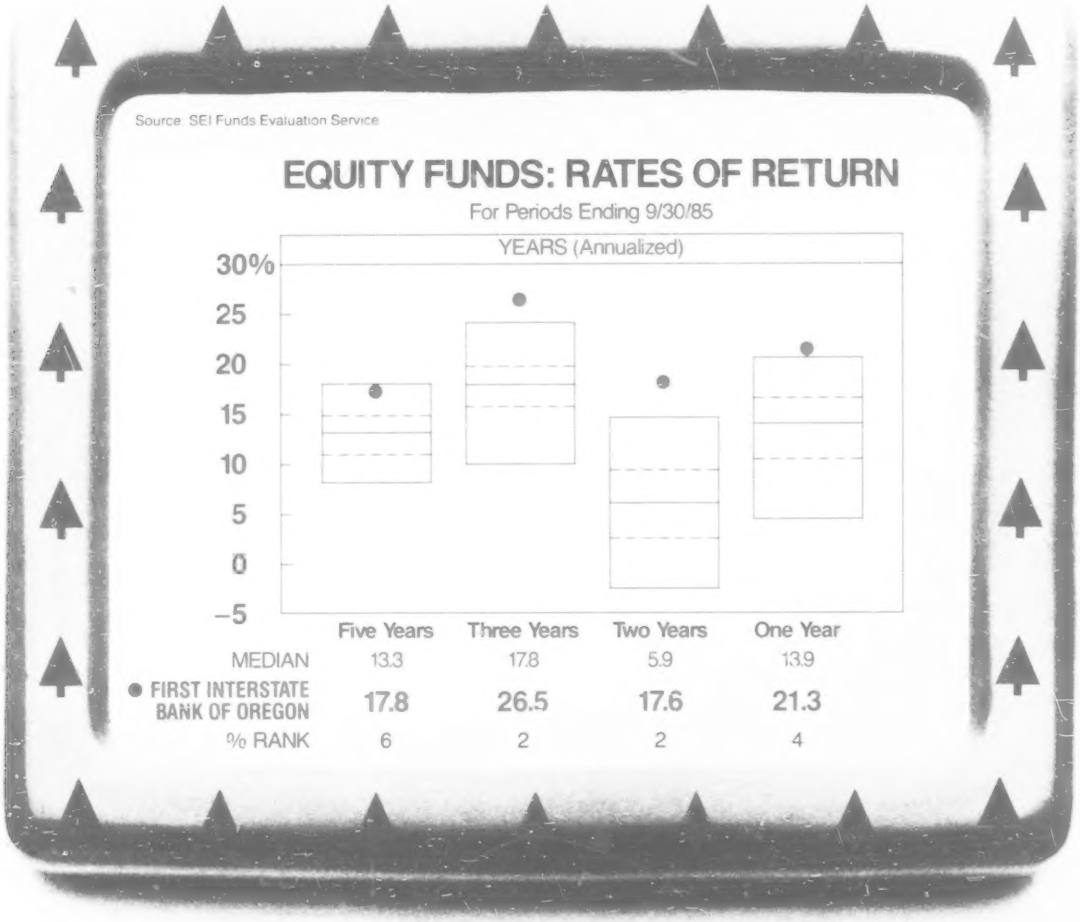
	($ millio
Total assets	
Defined benefit	
Employer contributions	
Benefit payments	
Alternative investments:	
Real estate equity	
Mortgages	
Asset mix:	
Stocks	6
Bonds	1
Cash equivalents	2
Real estate equity	0
Mortgages	0

I.A.M. National Pensior Fund

	($ millio
Total assets	
Defined benefit	
Employer contributions	
Benefit payments	
Passive investments:	
Equity indexing	
Fixed-income indexing	
Alternative investments:	
Real estate equity	
Asset mix:	
Stocks	5
Bonds	3
Cash equivalents	
Real estate equity	

Illinois State Board of Investment

	($ millio
Total assets	1,
Defined benefit	1,
Employer contributions	
Benefit payments	
In-house assets:	
Equities	
Fixed income	
Short term	
Alternative investments:	
Venture capital	
Real estate equity	
Mortgages	



	Five Years	Three Years	Two Years	One Year
MEDIAN	13.3	17.8	5.9	13.9
● FIRST INTERSTATE BANK OF OREGON	17.8	26.5	17.6	21.3
% RANK	6	2	2	4

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Asset mix:	
Stocks	43%
Bonds	26%
Cash equivalents	3%
Real estate equity	6%
Mortgages	2%
Mortgage-backed securities	20%

Illinois State Universities' Retirement System

	($ millions)
Total assets	1,886
Defined benefit	1,886
Employer contributions	83
Benefit payments	102
Passive investments:	
Equity indexing	373
Invested in GICs	16
Alternative investments:	
Real estate equity	86
Asset mix:	
Stocks	47.1%
Bonds	40.1%
Cash equivalents	8.3%
Real estate equity	4.5%

Indiana Public Employees

	($ millions)
Total assets	1,750
Defined benefit	1,350
Defined contribution	400
Employer contributions	185
Benefit payments	90
Asset mix:	
Bonds	83%
Cash equivalents	8%
Mortgage-backed securities	9%

Indiana State Teachers' Retirement Fund

	($ millions)
Total assets	1,101
Defined contribution	1,101
Employer contributions	141
Benefit payments	160
Passive investments:	
Invested in GICs	20
Asset mix:	
Bonds	66%
Cash equivalents	7%
Mortgage-backed securities	25%
GICs	2%

Inland Steel Co.

	($ millions)
Total assets	1,332
Defined benefit	1,107
Thrift or savings	225
Employer contributions	11
Benefit payments	90
Passive investments:	
Dedicated bond funds	328
Invested in GICs	106
International investments:	
Equity	50
Alternative investments:	
Venture capital	5
Real estate equity	83
Asset mix:	
Stocks	47.3%
Bonds	22.2%
Cash equivalents	6.2%
Real estate equity	7.5%
Mortgage-backed securities	7.2%
GICs	9.6%

International Harvester Co. (Navistar International Corp.)

	($ millions)
Total assets	1,047
Defined benefit	1,042
Other	5
Employer contributions	350
Benefit payments	200
Passive investments:	
Dedicated bond funds	900
Invested in GICs	25
Alternative investments:	
Real estate equity	120
Asset mix:	
Stocks	0.5%
Bonds	65%
Cash equivalents	10%
Real estate equity	12%
Mortgage-backed securities	10%
GICs	2.5%

An in-depth look at investment advisers runs May 19.

International Paper Co.

	($ millions)
Total assets	1,280
Defined benefit	1,100
401(k)	150
Other	30
Employer contributions	20
Benefit payments	70
Passive investments:	
Invested in GICs	50
International investments:	
Equity	15
Fixed income	10
Alternative investments:	
Real estate equity	80
Asset mix:	
Stocks	55%
Bonds	25%
Cash equivalents	7%
Real estate equity	8%
GICs	5%

ITT Corp.

	($ millions)
Total assets	2,060
Defined benefit	1,351
Profit-sharing	28
Thrift or savings	551
Other	130
Employer contributions	na
Benefit payments	na
In-house assets:	
Equities	173
Fixed income	114
Short term	29
Other	12
Passive investments:	
Invested in GICs	118
International investments:	
Equity	53
Alternative investments:	
Real estate equity	84
Asset mix:	
Stocks	59.4%
Bonds	25.2%
Cash equivalents	7.2%
Real estate equity	8.2%

Kaiser Permanente Medical Care Program

	($ millions)
Total assets	900
Defined benefit	800
Thrift or savings	100
Employer contributions	na
Benefit payments	na
Asset mix:	
Stocks	30%
Bonds	70%

Kentucky Retirement Systems

	($ millions)
Total assets	1,656
Defined benefit	1,656
Employer contributions	83
Benefit payments	61
In-house assets:	
Equities	170
Short term	280
Passive investments:	
Equity indexing	170
Alternative investments:	
Real estate equity	47
Mortgages	242
Asset mix:	
Stocks	35%
Bonds	30%
Cash equivalents	17%
Real estate equity	3%
Mortgages	15%

The 50 largest issuers in various segments of the market and a look at how that capital is being raised will be profiled March 17.

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Kentucky Teachers' Retirement System

	($ millions)
Total assets	1,853
Defined benefit	1,853
Employer contributions	129
Benefit payments	143
In-house assets:	
Fixed income	114
Other	35
Alternative investments:	
Real estate equity	35
Mortgages	106
Asset mix:	
Stocks	14%
Bonds	55%
Cash equivalents	18%
Real estate equity	2%
Mortgages	6%
Mortgage-backed securities	5%

K mart Corp.

	($ millions)
Total assets	1,001
Defined benefit	667
Thrift or savings	334
Employer contributions	40
Benefit payments	18
Passive investments:	
Equity indexing	41
Invested in GICs	203
Alternative investments:	
Real estate equity	66
Asset mix:	
Stocks	53.8%
Cash equivalents	2.2%
Real estate equity	9.9%
GICs	30.5%
Annuities	3.2%
Other	0.4%

KMI Continental Inc.

	($ millions)
Total assets	928
Defined benefit	778
401(k)	150
Employer contributions	na
Benefit payments	na
Passive investments:	
Fixed-income indexing	530
International investments:	
Equity	6
Alternative investments:	
Venture capital	3
Real estate equity	58
Asset mix:	
Bonds	89%
Cash equivalents	5%
Real estate equity	5%
Venture capital	1%

Eli Lilly & Co.

	($ millions)
Total assets	1,073
Defined benefit	668
401(k)	405
Employer contributions	43
Benefit payments	36
Passive investments:	
Dedicated bond funds	100
International investments:	
Equity	17
Alternative investments:	
Venture capital	5
Real estate equity	30
Asset mix:	
Stocks	65%
Bonds	17%
Cash equivalents	10%
Real estate equity	5%
Other	3%

Los Angeles City Employees' Retirement System

	($ millions)
Total assets	1,424
Defined benefit	1,424
Employer contributions	105
Benefit payments	100
In-house assets:	
Short term	100
Asset mix:	
Stocks	31%
Bonds	61%
Cash equivalents	8%

Los Angeles Fire & Police Pension System

	($ millions)
Total assets	1,757
Defined benefit	1,757
Employer contributions	213
Benefit payments	198
In-house assets:	
Short term	100
Asset mix:	
Stocks	48.6%
Bonds	22.7%
Cash equivalents	10%
Mortgage-backed securities	17.5%
Other	1.2%

Los Angeles Water and Power Employees' Retirement Plan

	($ millions)
Total assets	1,037
Defined benefit	1,037
Employer contributions	120
Benefit payments	90
In-house assets:	
Short term	100
Asset mix:	
Stocks	26%
Bonds	59%
Cash equivalents	6%
Mortgage-backed securities	9%

Louisiana State Employees' Retirement System

	($ millions)
Total assets	1,500
Defined benefit	1,500
Employer contributions	128
Benefit payments	164
In-house assets:	
Fixed income	16
Short term	168
Other	28
Alternative investments:	
Mortgages	28
Asset mix:	
Stocks	7%
Bonds	73%
Cash equivalents	15%
Mortgages	2%
Mortgage-backed securities	3%

Marathon Oil

	($ millions)
Total assets	1,300
Defined benefit	600
Thrift or savings	640
Other	60
Employer contributions	30
Benefit payments	60
Asset mix:	
Stocks	80%
Bonds	10%
Cash equivalents	5%
Annuities	5%

Martin Marietta Corp.

	($ millions)
Total assets	1,705
Defined benefit	1,288
Defined contribution	417
Employer contributions	121
Benefit payments	44
In-house assets:	
Equities	89
Fixed income	124
Passive investments:	
Invested in GICs	87
International investments:	
Equity	30
Asset mix:	
Stocks	52%
Bonds	41%
GICs	7%

McDermott International Inc.

	($ millions)
Total assets	1,229
Defined benefit	1,006
Thrift or savings	223
Employer contributions	na
Benefit payments	50
In-house assets:	
Equities	29
Fixed income	857
Short term	6
Passive investments:	
Dedicated bond funds	468
Invested in GICs	174
Alternative investments:	
Asset mix:	
Stocks	12%
Bonds	70%
GICs	18%

Look for the Money Mover Scorecard, an annual review of the asset management shifts and trends, in the Feb. 3 issue.

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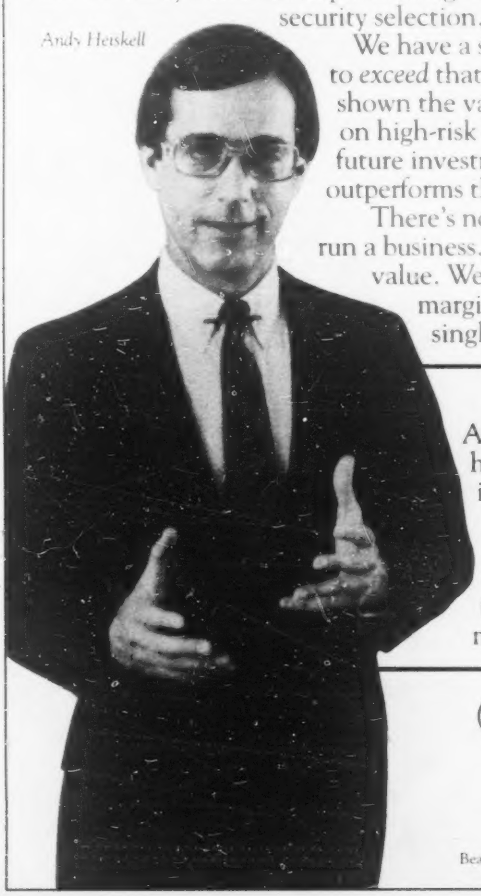
Andy Heiskell



We have a specific objective, but intensively manage the portfolio to *exceed* that objective. And usually, we do. Our experience has shown the value of managing securities *themselves* rather than relying on high-risk maturity decisions. Although no one can guarantee future investment performance, we are confident that this method outperforms the key bond indexes *and* produces first quartile results.

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Andy Heiskell

Andy Heiskell is a Senior Vice President of Beacon Asset Incorporated. And the "Accumulation Strategy" he's talking about is just one example of the kind of intelligent management he brings to institutional investment portfolios.

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Employes' Retirement System of the City of Milwaukee

	($ millions)
otal assets	1,000
Defined benefit	1,000
mployer contributions	34
enefit payments	39
assive investments:	
Dedicated bond funds	175
sset mix:	
Stocks	32%
Bonds	58%
Cash equivalents	10%

Minnesota Mining & Manufacturing Co.

	($ millions)
otal assets	1,726
Defined benefit	1,550
Thrift or savings	27
401(k)	122
Other	27
mployer contributions	68
enefit payments	46
assive investments:	
Equity indexing	112
ternational investments:	
Equity	121
lternative investments:	
Venture capital	10
Real estate equity	90
Mortgages	50
sset mix:	
Stocks	62%
Bonds	30%
Real estate equity	6%
Other	2%

Motorola Inc.

	($ millions)
otal assets	977*
Defined benefit	310
Profit-sharing	667
mployer contributions	78
enefit payments	na

s of June 30, 1985

-house assets:	
Equities	78
assive investments:	
Equity indexing	29
Invested in GICs	10
ternational investments:	
Equity	68
lternative investments:	
Real estate equity	59
sset mix:	
Stocks	51%
Bonds	33%
Cash equivalents	2%
Real estate equity	6%
GICs	1%
Other	7%

National Rural Electric Cooperative Association

	($ millions)
otal assets	1,475*
Defined benefit	na
Defined contribution	na
mployer contributions	126
enefit payments	na

s of June 30, 1985

sset mix:	
Stocks	42%
Bonds	29%
Cash equivalents	18%
GICs	6%
Other	5%

ublic Employees' Retirement System of Nevada

	($ millions)
otal assets	1,598
Defined benefit	1,598
mployer contributions	128
enefit payments	78

-house assets:	
Real estate	110
lternative investments:	
Venture capital	4
Real estate equity	45
Mortgages	179
sset mix:	
Stocks	44.7%
Bonds	25.9%
Cash equivalents	4.3%
Real estate equity	2.9%
Mortgages	11.8%
Mortgage-backed securities	10.1%
Other	0.3%

New Mexico Educational Retirement Board

	($ millions)
Total assets	1,069
Defined benefit	1,069
Employer contributions	65
Benefit payments	55

In-house assets:	
Equities	91
Fixed Income	942
Short term	36
Asset mix:	
Stocks	8.5%
Bonds	88%
Cash equivalents	3.5%

Public Employees' Retirement Association of New Mexico

	($ millions)
Total assets	973
Defined benefit	973

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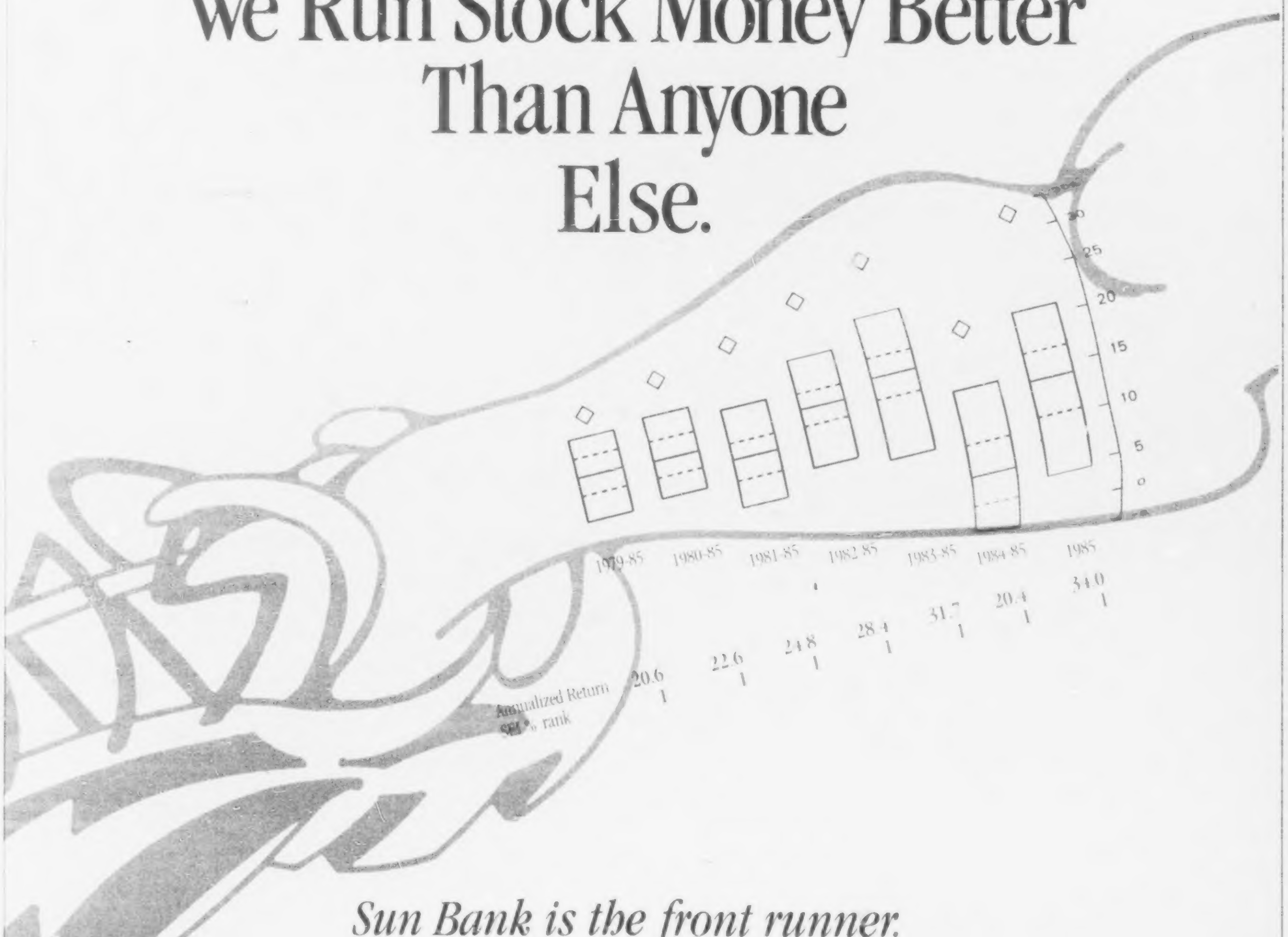

Sun Bank is the front runner.

The Sun Bank Corporate Equity Fund, which invests in common stocks and is used exclusively for employee benefit plans, was ranked #1 by PIPER for 1-year, 3-year, and 5-year performance for periods ending September 30, 1985. Its 1-year investment return of 34% for that period also outranked 99% of the approximately 1,000 equity funds rated by the SEI Funds Evaluation Service.

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Sun Bank
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Employer contributions	59
Benefit payments	36
In-house assets:	
Fixed income	13
Short term	10
Other	15
Asset mix:	
Stocks	33.4%
Bonds	40.5%
Cash equivalents	14.8%
Mortgage-backed securities	9.8%
Other	1.5%

New York Life Insurance Co.

($ millions)

Total assets	1,218*
Defined benefit	1,134
Profit-sharing	54
Thrift or savings	23
401(k)	7
Employer contributions	28
Benefit payments	38

*P&I Age estimate

In-house assets:	
Fixed income	985
Other	51
Alternative investments:	
Real estate equity	29
Asset mix:	
Bonds	2.1%
Real estate equity	2.8%
Annuities	95.1%

North American Philips Corp.

($ millions)

Total assets	901
Defined benefit	731
Profit-sharing	15
Thrift or savings	155
Employer contributions	30
Benefit payments	22
Passive investments:	
Dedicated bond funds	75
Invested in GICs	10
Alternative investments:	
Real estate equity	52
Asset mix:	
Stocks	60%
Bonds	20%
Cash equivalents	13%
Real estate equity	5%
GICs	1%
Annuities	1%

Ohio Police & Firemen's Disability & Pension Fund

($ millions)

Total assets	1,848
Defined contribution	1,848
Employer contributions	155
Benefit payments	163
In-house assets:	
Fixed income	1,124
Short term	218
Other	6
Passive investments:	
Equity indexing	150
Alternative investments:	
Venture capital	10
Real estate equity	33
Asset mix:	
Stocks	26.6%
Bonds	43%
Cash equivalents	11.8%
Real estate equity	1.8%
Mortgage-backed securities	16.3%
Other	0.5%

School Employees Retirement System of Ohio

($ millions)

Total assets	1,705
Defined benefit	1,705
Employer contributions	197
Benefit payments	162
Alternative investments:	
Venture capital	23
Real estate equity	181
Mortgages	73
Asset mix:	
Stocks	28.2%
Bonds	24.3%
Cash equivalents	12.9%
Real estate equity	10.8%
Mortgages	4.3%
Mortgage-backed securities	18.8%
Other	0.7%

The annual PIPER report will be featured Feb. 17.

Oklahoma Teachers' Retirement System

($ millions)

Total assets	1,312
Defined benefit	1,312
Employer contributions	125
Benefit payments	150
In-house assets:	
Short term	278
Asset mix:	
Stocks	8.6%
Bonds	66%
Cash equivalents	20.2%
Mortgage-backed securities	5.2%

International Union of Operating Engineers

($ millions)

Total assets	1,241
Defined benefit	1,241
Employer contributions	85
Benefit payments	50
In-house assets:	
Fixed income	140
Short term	157
Other	80
Passive investments:	
Equity indexing	232
Fixed-income indexing	93
Dedicated bond funds	119
Invested in GICs	155
Alternative investments:	
Mortgages	80
Asset mix:	
Stocks	28.2%
Bonds	26.6%
Cash equivalents	19.1%
Mortgages	4.8%
Mortgage-backed securities	8.9%
GICs	12.4%

Owens-Illinois Inc.

($ millions)

Total assets	1,499
Defined benefit	1,310
401(k)	189
Employer contributions	14
Benefit payments	100
Passive investments:	
Equity indexing	104
Fixed-income indexing	37
International investments:	
Equity	119
Fixed income	33
Alternative investments:	
Venture capital	17
Oil and gas	3
Real estate equity	116
Mortgages	38
Asset mix:	
Stocks	68.3%
Bonds	14.5%
Cash equivalents	5.2%
Real estate equity	9%
Mortgages	3%

Pan American World Airways Inc.

($ millions)

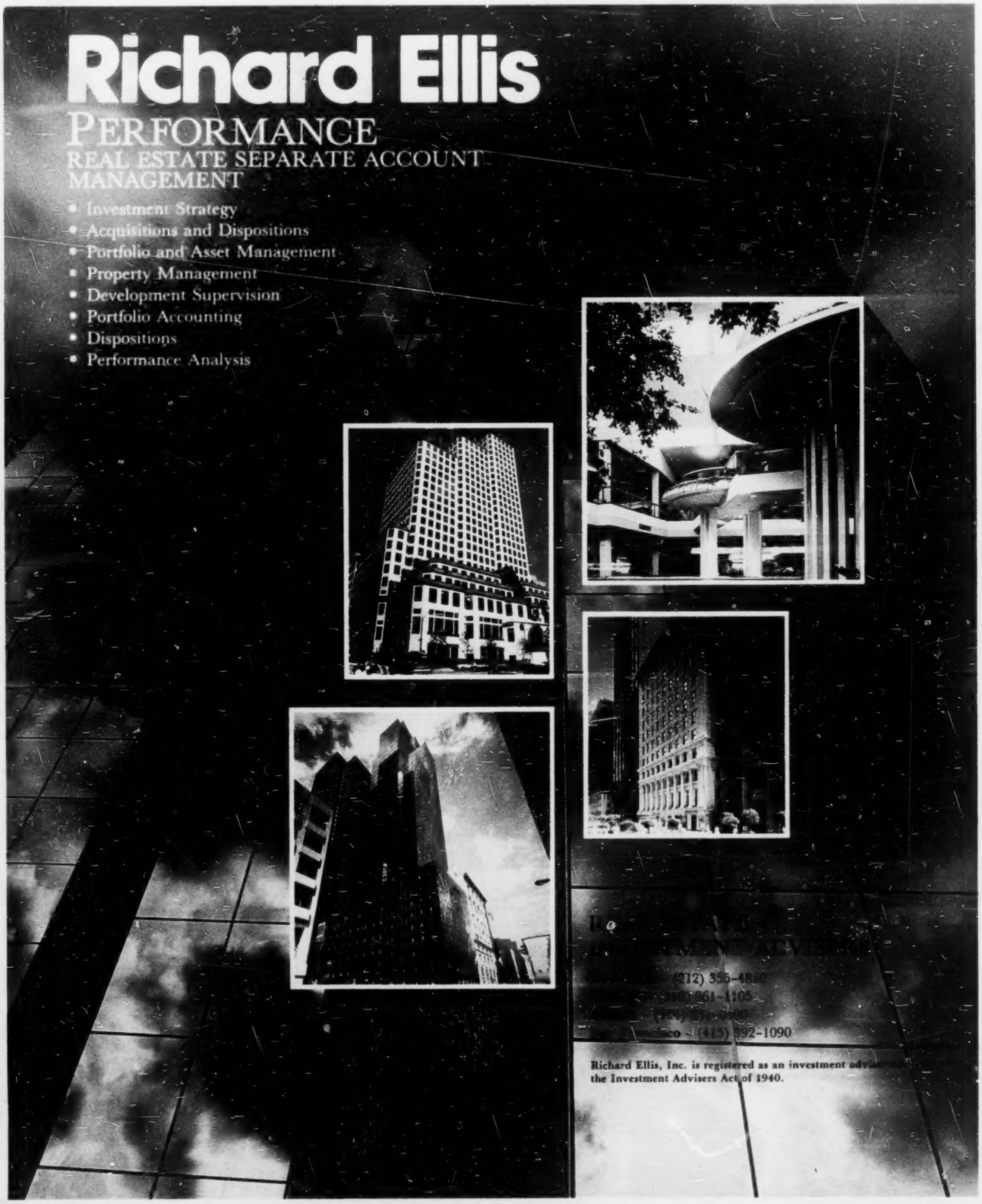
Total assets	1,075
Defined benefit	519
Defined contribution	556
Employer contributions	90
Benefit payments	na
International investments:	
Equity	15
Asset mix:	
Stocks	42%
Bonds	42%
Cash equivalents	16%

J.C. Penney Co.

($ millions)

Total assets	1,830
Defined benefit	805
Profit-sharing	1,018
Thrift or savings	7
Employer contributions	na
Benefit payments	na
Passive investments:	
Equity indexing	18
Invested in GICs	146
Alternative investments:	
Real estate equity	90
Asset mix:	
Stocks	78%
Bonds	1%
Cash equivalents	8%
Real estate equity	5%
GICs	8%

The use of mutual funds is the focus of a special report May 12.



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Philadelphia Municipal Employees' Pension Fund

	($ millions)
Total assets	1,097
Defined benefit	1,097
Employer contributions	140
Benefit payments	168
In-house assets:	
Short term	68
Other	45
Asset mix:	
Stocks	37.1%
Bonds	51.6%
Cash equivalents	6.2%
Mortgage-backed securities	1%
Other	4.1%

Philip Morris Inc.

	($ millions)
Total assets	1,180
Defined benefit	760
Profit-sharing	370
Other	50
Employer contributions	105
Benefit payments	20
In-house assets:	
Equities	30
Passive investments:	
Equity indexing	35
Dedicated bond funds	45
International investments:	
Equity	30
Alternative investments:	
Real estate equity	12
Asset mix:	
Stocks	50%
Bonds	35%
Cash equivalents	13%
Real estate equity	2%

PPG Industries Inc.

	($ millions)
Total assets	1,265
Defined benefit	804
Thrift or savings	461
Employer contributions	14
Benefit payments	63
Passive investments:	
Dedicated bond funds	313
Invested in GICs	10
International investments:	
Equity	14
Asset mix:	
Stocks	33%
Bonds	40%
Cash equivalents	23%
GICs	1%
Other	3%

The Board of Pensions of the Presbyterian Church (U.S.A.)

	($ millions)
Total assets	1,104
Defined benefit	1,080
Other	24
Employer contributions	50
Benefit payments	28
In-house assets:	
Fixed income	11
Passive investments:	
Equity indexing	190
Invested in GICs	232
International investments:	
Equity	38
Alternative investments:	
Real estate equity	30
Asset mix:	
Stocks	55%
Bonds	15%
Cash equivalents	5%
Real estate equity	3%
GICs	22%

Raytheon Co.

	($ millions)
Total assets	1,365
Defined benefit	1,163
Defined contribution	14
Profit-sharing	6
Thrift or savings	37
401(k)	145
Employer contributions	80
Benefit payments	35
Passive investments:	
Equity indexing	190
Dedicated bond funds	232
Alternative investments:	
Real estate equity	64
Asset mix:	
Stocks	66%
Bonds	22%
Cash equivalents	6%
Real estate equity	6%

Employees Retirement of the State of Rhode Island

	($ millions)
Total assets	1,128
Defined benefit	1,128
Employer contributions	na
Benefit payments	na
In-house assets:	
Equities	433
Fixed income	512
Other	183
Asset mix:	
Stocks	38.4%
Bonds	45.4%
Cash equivalents	16.2%

Southern Baptist Convention Annuity Board

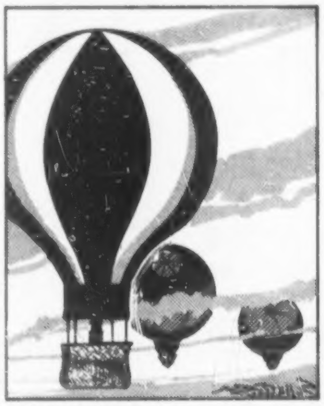
	($ millions)
Total assets	1,600
Defined benefit	600
Defined contribution	900
Other	100
Employer contributions	95
Benefit payments	30
In-house assets:	
Equities	15
Fixed income	1,090
Short term	20
Other	75
Passive investments:	
Invested in GICs	600
Asset mix:	
Stocks	20%
Bonds	17%
Cash equivalents	10%
Mortgages	5%
Mortgage-backed securities	10%
GICs	38%

Southern California Edison

	($ millions)
Total assets	1,362
Defined benefit	853
Thrift or savings	509
Employer contributions	na
Benefit payments	na
Passive investments:	
Invested in GICs	115
International investments:	
Equity	19
Alternative investments:	
Venture capital	10
Real estate equity	10
Asset mix:	
Stocks	49%
Bonds	31%
Cash equivalents	4%
Real estate equity	1%
GICs	14%
Venture capital	1%

Southern Co. Services Inc.

	($ millions)
Total assets	1,650
Defined benefit	1,300
Thrift or savings	350
Employer contributions	73
Benefit payments	32
Passive investments:	
Dedicated bond funds	150
Invested in GICs	50
Alternative investments:	
Real estate equity	10
Asset mix:	
Stocks	48%
Bonds	26%
Cash equivalents	21%



"I want to buy a home. *I don't care if it's a condo, townhouse, flat, studio, brick, wood, new, old . . . I just want to buy something that's mine, something I can point to and say, 'here, this is my home, I bought it, it's mine, want to come inside and see my kitchen?' And with one more raise, I can do it.*"

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Real estate equity	1%
GICs	4%

Southern New England Telephone Co.

	($ millions)
Total assets	1,075
Defined benefit	950
Thrift or savings	125
Employer contributions	41
Benefit payments	37

Passive investments:	
Equity indexing	173
Alternative investments:	
Real estate equity	38
Mortgages	1
Asset mix:	
Stocks	59%
Bonds	28%
Cash equivalents	9%
Real estate equity	4%

Standard Oil Co. (Ohio)

	($ millions)
Total assets	1,442*
Defined benefit	938
Profit-sharing	428
Thrift or savings	76
Employer contributions	104
Benefit payments	na

*P&I Age estimate

Asset mix:	
Stocks	78%
Bonds	2%
Cash equivalents	20%

Sun Co.

	($ millions)
Total assets	1,470
Defined benefit	1,205
Defined contribution	9
401(k)	256
Employer contributions	22
Benefit payments	99

Passive investments:	
Equity indexing	81
Invested in GICs	78
International investments:	
Equity	175
Alternative investments:	
Real estate equity	177
Asset mix:	
Stocks	61%
Bonds	15%
Cash equivalents	3%
Real estate equity	15%
GICs	6%

Teledyne Inc.

	($ millions)
Total assets	1,089*
Defined benefit	1,089
Employer contributions	na
Benefit payments	na

*P&I Age estimate

In-house assets:	
Equities	413
Fixed Income	635
Short term	41
Asset mix:	
Stocks	38%
Bonds	58%
Cash equivalents	4%

Tenneco Inc.

	($ millions)
Total assets	1,879
Defined benefit	1,222
Profit-sharing	1
Thrift or savings	20
401(k)	581
Other	55
Employer contributions	143
Benefit payments	35

In-house assets:	
Equities	175
Fixed income	401
Passive investments:	
Equity indexing	149
Asset mix:	
Stocks	47%
Bonds	48%
Cash equivalents	5%

Tennessee Valley Authority

	($ millions)
Total assets	1,753
Defined benefit	1,674
Thrift or savings	79
Employer contributions	72
Benefit payments	70

Passive investments:	
Equity indexing	230
Fixed-income indexing	50
Dedicated bond funds	38
Invested in GICs	92
Alternative investments:	
Real estate equity	21
Asset mix:	
Stocks	35.8%
Bonds	48.5%
Cash equivalents	7.9%
Real estate equity	1.2%
GICs	6.6%

Texaco Inc.

	($ millions)
Total assets	2,028*
Defined benefit	1,415
Defined contribution	550
Other	63
Employer contributions	na
Benefit payments	na

*P&I Age estimate

Passive investments:	
Invested in GICs	55
Alternative investments:	
Real estate equity	67
Asset mix:	
Stocks	46%
Cash equivalents	3%
Real estate equity	5%
GICs	4%
Other	42%

Texas County & District Retirement System

	($ millions)
Total assets	1,127*
Defined contribution	1,127
Employer contributions	68
Benefit payments	29

*P&I Age estimate

In-house assets:	
Fixed income	1,071
Short term	56
Asset mix:	
Bonds	95%
Cash equivalents	5%

Texas Instruments Inc.

	($ millions)
Total assets	930
Defined benefit	650
Profit-sharing	260
401(k)	20
Employer contributions	na
Benefit payments	15

Passive investments:	
Dedicated bond funds	7
Alternative investments:	
Venture capital	7
Real estate equity	30
Asset mix:	
Stocks	60%
Bonds	15%
Cash equivalents	15%
Real estate equity	5%
Other	5%

Texas Municipal Retirement System

	($ millions)
Total assets	1,200
Defined contribution	1,200
Employer contributions	75
Benefit payments	34

In-house assets:	
Equities	6
Fixed income	1,194
Asset mix:	
Stocks	0.5%
Bonds	99.5%

Trans World Airlines Inc.

	($ millions)
Total assets	2,008
Defined benefit	996
Defined contribution	938
Thrift or savings	41
Other	33
Employer contributions	105
Benefit payments	205

Passive investments:	
Equity indexing	300
Invested in GICs	270
International investments:	
Equity	15
Alternative investments:	
Real estate equity	24
Asset mix:	
Stocks	47%
Bonds	4%
Cash equivalents	8%
Real estate equity	1%
GIC	15%
Other	25%

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Travelers Insurance Co.

	($ millions)
otal assets	1,265
Defined benefit	960
Defined contribution	305
mployer contributions	76
enefit payments	43
n-house assets:	
Equities	300
Fixed income	500
Short term	20
Other	140
assive investments:	
Equity indexing	20
Invested in GICs	420
nternational investments:	
Equity	40
Fixed income	20
lternative investments:	
Real estate equity	55
Mortgages	30
sset mix:	
Stocks	32%
Bonds	8%
Cash equivalents	2%
Real estate equity	6.2%
Mortgages	2.8%
GICs	43%
Other	6%

TRW Inc.

	($ millions)
otal assets	1,391
Defined benefit	1,391
mployer contributions	71
enefit payments	93
n-house assets:	
Equities	200
nternational investments:	
Equity	93
Cash	2
lternative investments:	
Venture capital	18
sset mix:	
Stocks	70.5%
Bonds	19.5%
Cash equivalents	10%

nited Methodist Pension Fund

	($ millions)
otal assets	1,945
Defined contribution	1,945
mployer contributions	160
enefit payments	120
n-house assets:	
Short term	26
Other	300
assive investments:	
Equity indexing	296
Dedicated bond funds	35
Invested in GICs	300
lternative investments:	
Real estate equity	46
sset mix:	
Stocks	54.7%
Bonds	10%
Cash equivalents	17.5%
Real estate equity	2.4%
GICs	15.4%

nocal Corp.

	($ millions)
otal assets	1,272
Defined benefit	885
Profit-sharing	387
mployer contributions	55
enefit payments	70
nternational investments:	
Equity	28
lternative investments:	
Venture capital	7
Real estate equity	42
sset mix:	
Stocks	44%
Bonds	8%
Cash equivalents	17%
Real estate equity	5%
Mortgage-backed securities	1%
Other	25%

State of West Virginia

	($ millions)
Total assets	1,116
Other	1,116
Employer contributions	96
Benefit payments	128
In-house assets:	
Fixed income	948
Short term	168
Alternative investments:	
Mortgages	37
Asset mix:	
Bonds	80.5%
Cash equivalents	15.1%
Mortgages	3.3%
Mortgage-backed securities	1.1%

A directory of financial organizations and associations appears March 31. The directory takes a look at associations and organizations involved in treasury and investment management functions.

World Bank

	($ millions)
Total assets	1,461
Defined benefit	1,461
Employer contributions	61
Benefit payments	na
Passive investments:	
Equity indexing	219
International investments:	
Total	307
Alternative investments:	
Venture capital	29
Real estate equity	58
Mortgages	44
Asset mix:	
Stocks	41%
Bonds	19%
Cash equivalents	10%
Real estate equity	4%
Mortgage-backed securities	3%
International	21%
Other	2%

Xerox Corp.

	($ millions)
Total assets	1,845
Defined benefit	150
Defined contribution	1,367
Thrift or savings	310
Other	18
Employer contributions	na
Benefit payments	na
International investments:	
Equity	122
Fixed income	22
Alternative investments:	
Oil and gas	5
Real estate equity	190
Asset mix:	
Stocks	65.3%
Bonds	9.4%
Cash equivalents	12.8%
Real estate equity	12.5%

Funds with indexed bonds
($ millions)

Fund	Assets
AT&T	$2,922
Pennsylvania Public School	2,022
NYNEX Corp.	1,200
Teamsters, Central States	900
KMI Continental	530
Pennsylvania State Employees	525
N.Y.C. Retirement Systems	371
U S WEST	345
Deere & Co.	250
GTE Corp.	240
Washington State Board	198
Arizona State System	191
United Mine Workers	170
Sperry Corp.	160
I.A.M. National	103
Intl. Union of Oper. Eng.	93
Tennessee Valley Authority	50
Owens-Illinois Inc.	37
Total	**$10,307**

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Payments top . . .

Continued from page 15

Phillips Petroleum's benefit payments nearly quintupled, going to $355 million from $74 million, mostly because of an early retirement program implemented as part of a corporate restructuring after fighting off T. Boone Pickens' hostile takeover attempt.

Phillips officials said another reason for the rise in payments was that many retiring employees chose to take lump-sum distributions instead of annuities. Another oil company, Chicago-based Amoco Corp., had the opposite experience. Its benefit payments decreased 26%, to $177 million from $240 million, because fewer retirees took lump-sum distributions in 1985 than in 1984.

Yet another firm in that industry, Conoco Inc., Wilmington, Del., saw its benefit payments increase nearly fivefold, to $300 million from $65 million, because of a one-time early retirement opportunity program.

Conoco's parent company, Du Pont, also offered an early retirement program in 1985, resulting in its benefit payments increasing 33%, to $533 million from $400 million. The Conoco and Du Pont pension funds are run separately.

A Du Pont official, asked about the prevalence of early retirement programs in the oil industry, said they are not necessarily a trend in that industry, but in U.S. companies generally. Corporations in many industries are using such programs to reduce their work forces, he said.

Another reason for increased benefits, according to TPF&C principal Thomas Terry, is that payments under defined benefit plans have begun to reflect post-inflation enhancements fully.

Also, TPF&C officials said some benefit increases may be traced to distributions from the retirement savings plans that preceded 401(k) plans.

Public, union and miscellaneous pension funds showed different trends in contributions and benefits than did corporate funds. Among the 57 public funds that placed in the Top 200 in both 1985 and 1984 and provided contribution and benefit figures both years, contributions increased 17.4%, to $17.5 billion from $14.9 billion, while benefits increased just 4.4%, to $14.3 billion from $13.7 billion.

Experts attributed the increase in contributions to an effort to cut unfunded liabilities.

In the public arena in the past, maybe the contributions that have been made haven't been sufficient to fund the benefits that have been promised," said Lloyd Nordstrom, a Wyatt actuary.

Also, because some public funds operate under laws that limit them to rather conservative investments, they may not have realized such favorable investment performance as corporate funds and therefore needed greater contributions, Mr. Nordstrom said.

Another factor is that new employee groups, such as employees of local government units, may have joined statewide public retirement systems, said John Mackin, senior vice president of Martin E. Segal & Co., New York.

Union and miscellaneous funds showed little change in contributions or benefits. Six union funds placed in the Top 200 in 1985 and 1984 and provided contribution and benefit figures both years. Their contributions increased 2.6%, to $1.95 billion from $1.9 billion, while benefit payments increased 6.2%, to $1.7 billion from $1.6 billion.

Contributions to union funds tend to be stable or to increase because they are collectively bargained, said Robert D. Krinsky, president of Martin E. Segal, New York. "It is not up to the corporation as to how much they want to fund it," he said.

Among the seven miscellaneous funds that provided data for both years, contributions increased 7.1%, to $3 billion from $2.8 billion, while benefit payments increased 10%, to $1.1 billion from $1 billion. These funds include the nation's largest pension fund, the $40 billion Teachers Insurance and Annuity Association — College Retirement Equities Fund, church funds and service institutions. ■

Public plans increase . . .

Continued from page 16

"The labor officials ask, 'What's in it for us?' "

As a result, he said, labor members often want to renegotiate.

Dedication cuts flexibility; it could absorb a substantial bulk of an underfunded plan's assets, Mr. Kaplan said.

Officials of the Ohio teachers' fund turned to a $115 million dedication to finance a 5% "ad hoc increase" in benefits granted to retirees by the Ohio Legislature, said Stephen A. Mitchell, assistant executive director-investments, of the $10.2 billion fund.

"The actuaries said we would need $310 million to cover the liability of the 5% increase.

"At that time, rates were fairly high and we wanted to find a way to offset the (liability) of the benefits . . . so we dedicated $115 million, locking up a 13.07% return for the next 15 years.

"At the end of 15 years, a substantial amount of money will mature, which, if reinvested at 7.5% — the fund's present actuarial assumed rate of return — will cover the remaining existing liability at that time."

Officials of the internally managed fund used zero-coupon bonds to set up the dedication, which has a market value of about $140 million.

The Minnesota board, which oversees $6.8 billion in pension assets as well as some other state funds, dedicated $2 billion of its $2.7 billion fund for retirees late in 1984, said Howard J. Bicker, executive director.

The dedicated portfolio is run in-house and is largely in government bonds, Mr. Bicker said. He said the board set up the portfolio to protect benefits for the retirees, whose pension liabilities are 100% funded. The retired lives fund was split from the fund for active employees several years ago.

The Minnesota board also built a 3% benefit increase into the dedicated portfolio, Mr. Bicker said. The remaining $700 million in the retirees' fund is in equities, he said.

The $138 million Kansas City public school fund may have been the first public fund to dedicate. James C. Baker, executive secretary, said fund officials did their first dedication in 1979, locking in 14% to cover the liability of all retirees. Fund officials have done a dedication every year since.

All dedications were set up and managed by Scudder, Stevens & Clark, Los Angeles.

In 1985, the fund dedicated $8 million, locking in 12%, to cover all those who retired in 1984. The fund has dedicated a total of $40 million, locked in at a summary average of 12%, Mr. Baker said.

Even some underfunded plans consider dedicating. Richard Cohee, treasurer of the Jacksonville (Fla.) City Retirement System, had toyed with a dedication as part of a strategy to offset the fund's approximate $200 million unfunded liability.

About 1½ years ago, city officials had planned to sell city bonds to fund a dedication to cover the unfunded pension liabilities.

However, before the fund could act, interest rates dropped. Also, that kind of technique fell out of favor with the U.S. Treasury, which in effect outlawed it in tax laws, Mr. Cohee said.

He said fund officials are not averse to doing a dedication, but are "not terribly inclined to move large amounts of money to lock up low interest rates."

"When interest rates were higher, it was an easier decision," agreed Mr. Baker, which eventually will have to decide if it wants to do a dedication to cover the liabilities of employees retired last year.

Sponsors with internal pension fund management

(S millions)

Fund	Assets
TIAA-CREF	$40,000
California Public Employees	29,166
New York State Common Fund	22,792
N.Y. State Teachers System	12,644
General Electric Co.	12,504
New Jersey Division of Investment	12,494
Texas Teachers	11,188
Wisconsin Investment Board	10,800
Michigan State Employees	10,516
Ohio Public Employees	10,500
Ohio State Teachers	10,178
North Carolina Employees	8,645
U.S. Steel Corp.	8,000
E.I. du Pont de Nemours	7,841
AT&T	6,100
Georgia State Systems	6,053
IBM Corp.	5,900
University of California	5,200
N.Y.C. Retirement Systems	5,132
Colorado Public Employees	5,024
Alabama Retirement Systems	4,744
Florida Dept. of Admin.	4,643
United Nations Joint Staff	4,354
Tennessee Consolidated	4,249
Texas Employees	3,300
Washington Investment Board	3,271
Union Carbide Corp.	2,800
Minnesota State Board	2,700
Bethlehem Steel Corp.	2,575
Mass. Employees & Teachers	2,564
Westinghouse Electric Corp.	2,535
Maryland State System	2,518
Oregon Public Employees	2,500
Exxon Corp.	2,305
Chicago Public School Teachers	2,074
Metropolitan Life Insurance Co.	1,980
Virginia Supplemental System	1,822
Sears, Roebuck & Co.	1,766
Alaska State Systems	1,585
Utah State Employees	1,531
Citicorp	1,432
Procter & Gamble	1,365
Ohio Police & Firemen	1,348
Connecticut Trust Funds	1,331
Commonwealth Edison Co.	1,329
Grumman Corp.	1,301
Deere & Co.	1,300
Illinois State Board	1,284
Southern Baptist Church	1,200
Texas Municipal System	1,200
Rhode Island Employees	1,128
Texas County & District	1,127
West Virginia Employees	1,116
GTE Corp.	1,111
Teledyne Inc.	1,089
Aetna Life & Casualty	1,086
San Francisco Employees	1,082
New Mexico Educational Board	1,069
Shell Oil Co.	1,045
New York Life Insurance Co.	1,036
L.A. County Employees	983
Travelers Insurance Co.	960
American Airlines	900
McDermott International Inc.	893
Sperry Corp.	867
John Hancock Mutual Life	781
Hawaii Employees System	778
CIGNA Corp.	762
Allied-Signal Inc.	750
LTV Corp.	631
Ford Motor Co.	600
General Dynamics Corp.	600
Tenneco Inc.	576
Chrysler Corp.	570
Armco Inc.	562
Dow Chemical Co.	530
Pennsylvania Public School	504
Amoco Corp.	479
Kentucky Retirement Systems	450
R.J. Reynolds	402
Intl. Union of Oper. Eng.	378
Dresser Industries	350
Louisiana Teachers System	350
ITT Corp.	327
United Methodist	326
Halliburton Co.	306
United Mine Workers	290
Iowa Public Employees	286
Oklahoma Teachers System	278
Kansas Public Employees	263
Arizona State System	250
Martin Marietta Corp.	213
Louisiana State Employees	212
American Can Co.	200
TRW Inc.	200
Bechtel Power Corp.	175
Getty Oil	151
Kentucky Teachers System	149
Detroit Retirement Systems	142
Philadelphia Municipal Employees	113
Eaton Corp.	111
Nevada Public Employees	110
L.A. Water & Power	100
L.A. City Employees	100
L.A. Fire & Police	100
Dart & Kraft Inc.	89
Arkansas Teacher System	68
Ashland Oil	56
Episcopal Church	50
Illinois Municipal Employees	45
Teamsters, Central States	45
New Mexico Public Employees	37
Eastern Air Lines Inc.	32
Philip Morris	30
FMC Corp.	16
Boilermakers & Blacksmiths	14
Presbyterian Church	11
Total	**$339,123**

Midwest has trading gains

CHICAGO — The Midwest Stock Exchange Inc. and its subsidiaries had a record-breaking year. Trading volume topped 2.35 billion shares, a 28.6% increase from 1984.

Activity at the Midwest Clearing Corp. increased 9%; assets on deposit with the Midwest Securities Trust Co. rose 36.2% to $150 billion; and the MBS Clearing Corp. processed $220 billion in trades for the mortgage-backed securities industry, a 50% increase.

Mergers . . .

Continued from page 15

are absorbed by the companies that acquired them:

- Getty Oil Co., Los Angeles, ranked 158th as of Sept. 30 with assets of $1.2 billion, was acquired by Texaco Inc., White Plains, N.Y.
- General Foods Corp., White Plains, 110th with assets of $1.9 billion, was acquired by Philip Morris Inc., New York.
- RCA Corp., New York, 75th with assets of $2.7 billion was acquired by General Electric Co., Stamford, Conn.
- Hughes Aircraft Co., Culver City, Calif., 70th with assets of $3 billion, was acquired by General Motors Corp., New York.

Three other funds dropped off the Top 200 because their assets didn't grow as much as others.

Sandia National Laboratories, Albuquerque, N.M., dropped to 218th from 200th, although its assets increased 11% to $849 million in the year ended Sept. 30.

Charles M. Mika, supervisor of benefits planning and pension fund management, said Sandia's contribution level of 4% to 5% of payroll expense is lower than the contribution level of many corporations, and has fallen from previous years.

He said the fund's investments have performed well and it is more fully funded than in the past.

Pension assets of the Dallas-based Army and Air Force Exchange Service, Dallas, increased more slowly in the year ended Sept. 30 because benefit payments jumped, said Ken C. Weaver, assistant chief of AAFES' insurance branch. The fund fell to 208th as of Sept. 30 from 199th a year ago, although its assets grew 15% to $879 million from $765 million.

While the fund's contribution remained about the same this year, benefit payments increased 8.5% in 1985, Mr. Weaver said. The number of retirees in the plan rose 6% from 1983 to 1984, the most recent year for which he could provide data. But he said the plan is experiencing similar growth in the number of retirees.

The assets of the Marine Engineers Benefit Association, Baltimore, grew 6.7%, but the rate of increase was lower than the previous year and insufficient to keep it among the 200 largest. MEBA, which reported total assets of $896 million as of Sept. 30, compared with $840 million a year ago, fell to 204th from 188th.

Although only one corporation dropped out of the Top 200 because it terminated an overfunded pension plan, the effects of terminations under way now are likely to be reflected in next year's ranking.

Firestone Tire & Rubber Co., Akron, Ohio, recaptured $284 million in a termination/re-establishment of its defined benefit plan for salaried workers. As a result, the fund moved to 403rd place as of Sept. 30 — with $419 million in assets — from 173rd and $964 million in assets a year ago.

Next year, United Air Lines Inc., Chicago, is expected to lose its position as the 65th largest U.S. employee benefit fund because of plans to recapture nearly $1 billion in surplus assets from the largest reversion to date. United had $3.4 billion in assets as of June 30, according to the 1986 Money Market Directory.

Union Carbide Corp., Danbury, Conn., which is ranked 74th this year with $2.8 billion in pension assets, will move down following its recapture of $500 million, or half the excess assets in its overfunded defined benefit plans for

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PRIT liability met aggressively

By Alan Krauss

BOSTON — The Pension Reserve Investment Trust has charted a more aggressive investment course to help reduce an estimated $11 billion unfunded liability plaguing Massachusetts' public pension funds.

After establishing an asset mix of 50% stocks, 40% bonds and 10% real estate, PRIT officials allocated $100 million to its first real estate managers; $25 million to a new fixed-income manager; and $147 million to six existing equity managers.

Sandra Whiston, director of financial operations, said PRIT's board adopted the more aggressive stance after actuarial studies showed unfunded liabilities of about $11 billion among all of the state's public retirement systems.

(PRIT is a $1 billion trust that invests the retirement assets of six Massachusetts communities and part of the $2.9 billion Massachusetts State Employees' & Teachers' Retirement System. PRIT, established by the Legislature in 1983 and receiving its first allocations in 1984, was part of an effort to curb unfunded liabilities statewide.)

The goal is to project returns that, reinvested, would allow PRIT to make progress toward covering those unfunded liabilities, she said.

PRIT officials have a target asset allocation of 50% equity, 30% fixed, 15% real estate, 5% venture capital.

The board is interviewing venture capital managers, and expects to select them during the first quarter.

In real estate, $100 million was given to seven commingled funds: three open-end pools; three closed-end pools; and a limited partnership.

Bank of Boston received $25 million for an open-end fund that acquires existing properties; $15 million went to an open-end fund managed by Copley Real Estate Advisors, Boston, that invests in development joint ventures; and $5 million went to Massachusetts Mutual Life Insurance Co., Springfield, for a diversified open-end pool.

Boston Financial Technology Group, a syndication firm Ms. Whiston said is making its first foray into the tax-exempt arena, received $5 million for a new closed-end fund that will invest in a variety of property types in smaller markets.

PRIT put $25 million into Group Trust IV, a closed-end fund run by JMB Institutional Realty Corp., Chicago, which invests in shopping centers and office buildings; and $15 million into Los Angeles-based TCW Realty Advisors' closed-end Real Estate Fund IV, which invests in office, retail and industrial properties.

Another $10 million will go into John Hancock Companies' new Apartment Fund II, a closed-end limited partnership.

Ms. Whiston said trust officials evaluated 36 real estate investment managers responding to the board's initial request for proposals. Presentations by 10 firms were heard before the final selections were made. Wilshire Associates, Santa Monica, Calif., was the consultant.

PRIT also hired M.D. Sass Investors Services Inc., New York, to run a $25 million fixed-income portfolio of what Ms. Whiston called actively managed, mortgage-related investments, including both mortgages and mortgage-backed securities. She said Sass was not funded during the trust's first round of manager hirings in September because PRIT's fixed-income allocation was covered by other managers at that point.

She said the Sass portfolio would complement the trust's other fixed-income managers because of its heavy mortgage orientation.

A total of $147 million went to six firms that already had PRIT assets under management.

Alliance Capital Management Corp., New York, received $75 million to add to the $115 million it manages in an equity index fund based on the Standard & Poor's 500 stock index.

Five active equity managers got additional PRIT allocations: Bear, Stearns Asset Management Inc., New York, which received $12 million and now has a total of about $51 million; Lazard Freres Asset Management, New York, $20 million for a total of $85 million; Trinity Investment Management Corp., Boston, $20 million for a total of $100 million; United States Trust Co. of Boston, $5 million for a total of $16 million; and Wright Investors' Service, Bridgeport, Conn., $15 million for a total of $51 million.

Separately, PRIT announced its non-annualized rate of return for the 11 months ended Nov. 30 was 18.74%. The return figure included non-annualized rates for the same period of 23.76% on PRIT's equity portfolio (vs. 26.07% for the S&P 500); 21.23% on its fixed-income portfolio (vs. 17.67% for the Shearson Lehman Government/Corporate bond index); and 7.55% on cash and cash equivalents (vs. 7.11% for 90-day Treasury securities). ■

Funds investing in real estate equity
($ millions)

Fund	Assets
AT&T	$2,011
California Public Employees	1,636
Ohio State Teachers System	1,261
TIAA-CREF	1,116
Teamsters, Western Conference	662
K mart Corp.	659
NYNEX Corp.	633
Florida Dept. of Admin.	612
Exxon Corp.	610
Pennsylvania Public School	580
Prudential Insurance Co.	523
Ameritech	515
Westinghouse Electric Corp.	515
General Electric Co.	478
American Stores	427
Connecticut Trust Funds	413
Pennsylvania State Employees	404
United Nations Joint Staff	388
Oregon Public Employees	360
California Teachers	329
Shell Oil Co.	289
Southwestern Bell Corp.	285
United Mine Workers	236
Virginia Supplemental System	227
Eastman Kodak	218
U S WEST	215
United Technologies Corp.	210
Allied-Signal Inc.	200
Minnesota State Board	200
Eastern Air Lines Inc.	199
Caterpillar Tractor Co.	198
Armco Inc.	196
Xerox Corp.	190
Wisconsin Investment Board	184
Chevron Corp.	182
Ohio School Employees	181
Monsanto Co.	180
Sun Co. Inc.	177
Boilermakers & Blacksmiths	177
United Air Lines	171
Ohio Public Employees	170
Goodyear Tire & Rubber Co.	168
RCA Corp.	160
Alaska State Retirement Systems	157
Utah State Employees	139
Pacific Gas & Electric	126
Phillips Petroleum Co.	126
Illinois State Board	124
Washington Investment Board	123
International Harvester	120
Owens-Illinois Inc.	116
R.J. Reynolds	114
John Hancock Mutual Life	112
Aluminum Co. of America	106
San Francisco Employees	104
Hercules Inc.	100
Colorado Public Employees	100
Illinois Teachers	100
Honeywell Inc.	100
Amoco Corp.	94
Minnesota Mining & Mfg.	90
North Carolina Employees	88
Illinois State Universities	86
ITT Corp.	84
Inland Steel Co.	83
International Paper	80
Chrysler Corp.	79
Grumman Corp.	78
General Foods Corp.	73
Aetna Life & Casualty	72
Ford Motor Co.	70
Texaco Inc.	67
Illinois Municipal Employees	66
Conoco Inc.	65
Raytheon	64
GTE Corp.	60
KMI Continental	58
World Bank	58
American Can Co.	55
Travelers Insurance Co.	55
Dow Chemical Co.	53
North American Philips	52
Chicago Municipal Employees	50
Cooper Industries Inc.	50
Sears, Roebuck & Co.	50
Kentucky Retirement Systems	47
United Methodist	46
Nevada Public Employees	45
N.Y. State Teachers	43
Dresser Industries	42
I.A.M. National	42
Unocal Corp.	42
Union Carbide Corp.	40
So. New England Telephone	38
Kentucky Teachers System	35
Michigan State Employees	33
Ohio Police & Firemen	33
CIGNA Corp.	30
Eli Lilly & Co.	30
Presbyterian Church	30
Texas Instruments Inc.	30
New York Life Insurance Co.	29
Florida Power & Light	26
Trans World Airlines Inc.	24
Teamsters, Central States	24
Citicorp	23
Detroit Systems	21
Tennessee Valley Authority	21
Deere & Co.	19
Hawaii Employees Systems	19
E.I. du Pont de Nemours	17
Ashland Oil	13
Philip Morris	12
Kansas Public Employees	12
L.A. County Employees	10
Southern California Edison	10
Southern Co. Services Inc.	10
Houston Retirement System	7
Alabama Retirement Systems	4
Georgia State Systems	3
Arizona State System	3
Total	**$23,305**

PBGC liabilities . . .

Continued from page 16

dropped Alliance Capital Management, New York, as manager of a $120 million equity account.

Hired in January 1985 were Lazard Freres Asset Management and Lehman Management Co., both of New York, and InterFirst Investment Management Inc., Dallas, to each run $50 million in equity assets.

Dedicated or immunized bond funds
($ millions)

Fund	Assets
Teamsters, Western Conference	$2,552
Ameritech	2,400
Minnesota State Board	2,000
Chrysler Corp.	1,930
Bethlehem Steel Corp.	1,327
United Mine Workers	1,080
General Electric Co.	1,078
U S WEST	1,054
Allied-Signal Inc.	1,000
International Harvester Co.	900
Caterpillar Tractor Co.	890
American Airlines	850
Chevron Corp.	593
R.J. Reynolds	487
McDermott International Inc.	468
RCA Corp.	400
Armco Inc.	394
Chicago Municipal Employees	370
Inland Steel Co.	328
PPG Industries Inc.	313
Ford Motor Co.	300
Honeywell Inc.	300
Raytheon	233
American Can Co.	200
Hercules Inc.	184
Milwaukee City Employees	175
Southern Co. Services Inc.	150
Ohio State Teachers System	140
Intl. Union of Oper. Eng.	119
Cooper Industries Inc.	100
Eli Lilly & Co.	100
Boilermakers & Blacksmiths	90
Dow Chemical Co.	90
FMC Corp.	76
North American Philips	75
Eaton Corp.	56
Dart & Kraft Inc.	47
Philip Morris	45
Tennessee Valley Authority	38
United Methodist	35
United Technologies Corp.	30
Texas Instruments	7
Total	**$23,004**

In March, the agency picked M.J. Whitman & Co. to handle between $10 million and $20 million in special situation assets.

The PBGC also has experimented with pilot programs that provide downside protection on bond assets.

In September, the agency hired Chase Investors Management Corp., New York, to insure a $10 million portfolio that is internally managed; Leland O'Brien Rubinstein Associates Inc., Los Angeles, backs up $15 million for the agency in a similar program, now in its third year.

The changes are part of an overhaul of the agency's investments, which saw greater emphasis placed on fixed-income assets and less on equities, as well as the addition of real estate investments.

As of Sept. 30, equity managers — besides those listed above — were Chase Investors; Dimensional Fund Advisors, Santa Monica, Calif.; McCowan Associates Inc., New York; Rollert & Sullivan Inc., Boston; and United Capital Management, Denver.

Pacific Investment Management Co., Newport Beach, Calif., manages the agency's fixed-income investments, except for a $250 million account run by Morgan Stanley Asset Management Inc., New York. The latter portfolio comprises the agency's revolving funds, which are composed largely of employer-paid premiums and are required to be invested in Treasury securities.

The agency's real estate managers are TCW Realty Advisors, Los Angeles, JMB Institutional Realty, Chicago and The RREEF Funds, San Francisco.

The assets mix, as of Sept. 30, was 30% stocks, 45% bonds, 10% cash equivalents, 3% real estate, and 12% in receivables. The agency had an estimated annual rate of return of 15.2%.

State Street Bank is the master trustee.

Kevin W. Putt is deputy executive director for resource management; Jay A. Jupiter is manager-investment management division; and Julie H. Shriver is senior investment adviser. ▪

Cut transaction costs . . .

Continued from page 16

"(City National) is still our custodian and we still have some physical bonds there. Every time we sold a bond, we had to move it from here to there," said Ms. Netterville.

She said the switch will not only save about $50,000 annually, but also will enable the fund to do securities lending.

"City National is the participating bank and Chase is the agent bank in the institutional delivery system," said Ms. Netterville, adding the fund still deals with City National when it wants to buy or sell securities.

Douglas A. Kelly, director-pension investments at American Can Co., Greenwich, Conn., said the $1.01 billion pension fund began using discount brokers for some of its trades.

"What we did was identify a couple of 'discount brokers' and interviewed them and spent a few days with them on the floor of the exchange," he said. "We did the same thing with the brokers our managers use . . . We feel comfortable that they are not suffering," said Mr. Kelly.

He said the fund's managers were asked to direct 25% of their trading to a list of discount brokers.

"We feel that we don't want to tie the hands of our managers and we feel they do receive some value from their brokers," he said.

Transaction costs before discount brokers were used averaged 8 cents per share, while directed transactions to discount brokers have been about 3 cents per share. ▪

Funds with indexed stocks
($ millions)

Fund	Assets
TIAA-CREF	$12,500
New York State Common Fund	6,751
AT&T	6,100
California Public Employees	5,000
N.Y.C. Retirement Systems	4,766
New York State Teachers	4,217
NYNEX Corp.	2,850
California State Teachers	2,000
Teamsters, Central States	1,936
Maryland State System	1,831
General Electric Co.	1,642
Ford Motor Co.	1,600
Minnesota State Board	1,600
Washington State Investment Board	1,594
Southwestern Bell Corp.	1,358
Exxon Corp.	1,326
E.I. du Pont de Nemours	1,215
Florida Dept. of Admin.	1,128
Bell Atlantic Corp.	1,000
Pennsylvania State Employees	998
Pennsylvania Public School	989
Virginia Supplemental System	891
Illinois Teachers	870
U S WEST	864
Deere & Co.	800
Sears, Roebuck & Co.	566
Ameritech	540
Arizona State System	523
Shell Oil Co.	432
GTE Corp.	430
Aluminum Co. of America	424
Illinois State Universities	373
General Foods Corp.	315
RCA Corp.	300
Trans World Airlines Inc.	300
United Methodist	296
Utah State Employees	260
Intl. Union of Oper. Eng.	232
Tennessee Valley Authority	230
Phillips Petroleum Co.	227
Sperry Corp.	222
World Bank	219
Allied-Signal Inc.	200
Cooper Industries Inc.	200
Presbyterian Church	190
Raytheon	190
Pacific Gas & Electric Co.	184
Goodyear Tire & Rubber Co.	175
United Technologies Corp.	175
Alabama Retirement Systems	174
Southern New England Telephone	173
Kentucky Retirement Systems	170
Florida Power & Light	153
Ohio Police & Firemen	150
Tenneco Inc.	149
Amoco Corp.	138
Hawaii Employees System	130
Eaton Corp.	125
Minnesota Mining & Mfg.	112
Prudential Insurance Co.	110
Owens-Illinois Inc.	104
Illinois Municipal Employees	100
I.A.M. National	99
San Francisco Employees	98
Mississippi Public Employees	95
Armco Inc.	89
Sun Co. Inc.	81
R.J. Reynolds	72
Dow Chemical Co.	63
K mart Corp.	41
Philip Morris	35
Chicago Municipal Employees	29
Hercules Inc.	28
Citicorp.	20
Travelers Insurance Co.	20
J.C. Penney Co. Inc.	18
Getty Oil	12
Total	**$75,617**

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Stock-picking managers beat S&P

By Richard J. Gillespie

Performance results for a sample of 265 money managers show, on stock-picking abilities alone, they beat the Standard and Poor's 500 stock index in 1985.

The figures compiled by CDA Investment Technologies, Silver Spring, Md., show the managers, with combined assets of $270 billion, returned an average of 33.2% for the year.

The Standard & Poor's 500 was up 31.6% for 1985, including dividends. The Dow Jones Industrial Average, which comprises the stocks of 30 leading industrial companies, returned an estimated 33.6%.

The CDA figures do not give the actual investment results of the firm's surveyed, however. They only reveal the total return on the equity component of equity portfolios, and exclude the cash and fixed-income components

Equity-only returns of money managers*

Manager	No. of stocks	9/30/85 Portfolio value ($ mil.)	1985 returns %
Integrated Asset Mgmt.	51	58	68.6
National Investment Service/Amer.	44	81	53.9
W.P. Stewart & Co. Inc.	42	235	51.1
Gamco Investors Inc.	59	472	50.5
Gray Seifert & Company	108	230	49.8
Southeastern Asset Mgmt.	59	346	48.9
R. Meeder & Assoc. Mgmt.	57	78	48.1
Newbolds Asset Management	53	638	48.0
Towneley Capital Mgmt.	49	236	45.1
Shufro Rose & Ehrman	123	,556	44.9
Dreman & Embry Inc.	74	523	44.6
Friess Associates Inc.	57	186	44.4
Harris Associates Inc.	309	1121	43.4
Ruane Cunniff & Co.	104	801	42.9
Institutional Capital Co.	39	512	42.8
First Manhattan Co.	492	2298	42.6
Gofen & Glossberg Inc.	147	178	42.6
Tweedy Browne Inc.	81	301	42.5
Reich & Tang Inc.	73	700	42.5
George D. Bjurman & Assoc.	48	40	42.1

*The top 20 managers by 13F filings as reproduced by CDA Investment Technologies, Silver Spring, Md. Figures do not represent real investment returns.

Also, because equity holdings are derived from the 13(f) forms filed quarterly with the Securities and Exchange Commission, the figures do not account for any trading that might have occurred during the quarter, according to Spero Kripotos, executive vice president of CDA.

But on this basis, the top-performing firm in 1985 was Integrated Asset Management, New York, with a total return of 68.6%.

Dorothy Berry, executive vice president and chief operating officer, said the firm's average account was actually up in the "high 30s" for the year.

She said the difference arose because the firm had between 20% and 25% in cash and another 10% in fixed income.

"I will say that we were picking the right stocks," commented Ms. Berry. She added there is still cause for celebrating because "most clients are thrilled to get anything over 30% a year."

The firm's biggest equity gainer was **RCA Corp.**, which was taken over by General Electric Co. in December in an all-cash transaction valued at $66.50 per share.

The second-highest performing equity manager for 1985, with a return listed by CDA of 53.9%, was National Investment Services of America, Milwaukee, a firm previously known for its fixed-income management.

NISA's portfolio actually returned about 53.7%, said Eugene Martin, executive vice president.

But Mr. Martin said he is more concerned with the firm's long-term performance, which he said is

seven years.

In 1985, NISA stayed with the same equity strategy it had followed during the past three years, said Mr. Martin, targeting consumer and services industries.

"The names that did the job for us last year were the names we have held for the past two and three years," he said. He mentioned **American Family Corp.**, **Cray Research**, **Dreyfus Corp.**, **Green Tree Acceptance**, **Liz Claiborne**, **La Petite Academy** and **The Limited Inc.**

NISA has yet to switch strategies, he said, adding that holdings are under review.

CDA said its third-ranked performer, W.P. Stewart & Co. Inc., New York, returned 51.1%. Bob Schwartz, a spokesman, would neither confirm nor deny whether CDA's numbers are accurate.

Close behind, at 50.5%, was GAMCO Investors Inc., New York. "Our performance was good, but not that good," said Douglas R. Jamieson, a vice president.

The firm seeks companies that are likely takeover candidates, or that might be taken private, he said.

The firm also invests in convertible securities and this, coupled with other cash flows, produced returns more in the mid-to-high 30s, he said.

GAMCO was also the top performer in the three-year period. Its big plays of 1985 were **Storer Communications Inc.**, **Transway International Corp.**, **GenCorp** and **Gulf & Western Industries Inc.**

The company also had holdings in **ACF Industries Inc.** and **Wometco Enterprises Inc.**

For 1986, the firm likes **GenCorp**, **Rollins Communications**, **Iroquois Brands** and companies in the automotive after-market like **Echlin Inc.** and **Modine Manufacturing Co.**, said Mr. Jamieson.

According to CDA, GAMCO Investors' equity portfolio returned 144.6% on a quarter-by-quarter basis, a compound annual rate of 34.7% for three years.

Over the three-year period, CDA's sample of 162 managers averaged a total return of 66.8%, or 18.6% on an annual compound basis, compared with 19.6% for the S&P 500.

For the three years, Ruane Cunniff & Co. was second, with a compound annualized turn of 34%; and Shufro Rose & Ehrman was third, with about 30% compounded annually.

Edward Shufro, a partner, said the firm's 1985 performance probably was different because they had a larger cash position and more fixed income for the year, therefore, the figures were distorted.

In early January, he had not yet calculated the average account increase for 1985, he said.

The firm's largest holding in 1985 was **Union Carbide Corp.**, a firm whose share price doubled as the result of takeover activity from GAF Corp. ■

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Late news

Continued from page 3

One quarter of the 160 million shares will be offered to the public.

Coldwell chiefs quit

LOS ANGELES — Coldwell Banker Capital Management Services, with about $800 million under management, has lost its top property investment personnel. Reed Samuelson, president; Scott Calder, acquisitions; Gary Neumeier, portfolio management; and others have joined T. Rowe Price Realty Advisers Inc., Los Angeles.

Late money movers

• FAIRFIELD, Conn. — The $2 billion Common Fund tapped Aronson & Fogler Investment Management, Philadelphia, to run a $10 million account for its 11-manager equity commingled fund.

• BALTIMORE — The $150 million Alexander & Alexander Inc. pension plan hired its first overseas manager. Alliance Capital Management International Inc., London, to manage a $10 million balanced international account.

Funds lose $8 billion . . .

Continued from page 3

period. The median portfolio returned -2%; the third quartile -2.5%.

The market losses were broad; nine of the 10 industry sectors of the S&P 500 reported negative returns.

Despite the loss, pension fund executives were not alarmed.

"This particular drop won't motivate us to do anything different," said James J. Biundo, director-trust investment management, U S WEST Inc., Englewood, Colo.

He estimated the fund's equities declined 2% to 2.5% — about $80 million to $90 million — in the first 10 days of January. U S WEST has about 60% of its more than $5.6 billion pension fund in domestic stocks.

At Honeywell Inc., Minneapolis, Robert T. Mail, vice president-pension investment, said, "I'm not worried about that in that short period."

Honeywell's specific results weren't immediately available, though Mr. Mall said the fund has about 40% of its roughly $1.6 billion in pension assets in U.S. stocks, an equity allocation slightly less than the average Top 200 fund.

"We're investing for the long term," Mr. Mall added. "There are going to be these short-term fluctuations. We've committed ourselves to being in equities."

Even smaller funds, such as Associated Dry Goods Corp., New York, with $165 million in pension assets, were affected by the market change.

Theodore Babcock, assistant treasurer, said of its fund's equity return in January, "I would think it would be negative, like everyone else's."

In the 10-day January period, the S&P 500 recorded the steepest loss of the broad market indexes, though they all registered losses.

In the 10 days, the Wilshire 5000 returned -1.96%; Value Line, -1.96%; and NASDAQ over-the-counter composite, -0.24%.

The Dow Jones industrial average fell 2.14%, including its steepest single day fall in points (39.1), though in percentage terms (-2.5%) the drop wasn't its largest. The early January market downturn came after a sharp fourth quarter rally in which the S&P 500 rose 17.12%.

The Top 200 funds' aggregate January loss was extrapolated, assuming S&P 500 returns, from *Pensions & Investment Age's* statistics as of Sept. 30, when it was reported their equity portfolios totaled $270 billion, or 41.5%, of their $648.5 billion in assets.

In the rally of the fourth quarter, ended Dec. 31, the equity portfolios reached an estimated $316 billion, increasing by $46 billion, or the equivalent of the 17.12% total return of the S&P 500, including reinvestment of dividends.

But in the first 10 days of January; the portfolios fell in value to an estimated $308 billion, dropping 2.45%, or equal to the loss in the S&P.

The equity portfolios of the 115 largest corporate funds showed a little more fluctuation in value since the beginning of the fourth quarter, based on similar estimates.

As of Sept. 30, the 115 reported equities totaling $186 billion, or 48.5%, of their $383 billion in assets. In the fourth quarter, their equities rose an 17.12% to $218 billion. But from Jan. 1 to 10, their equities dropped to $212 billion.

Their estimated $6 billion loss means they gave up in 10 days about 19% of the $32 billion they gained in the last three months of 1985.

Each fund's returns would depend on its percentage of assets allocated to equities and its particular stock holdings.

According to INDATA, of the S&P 500's 10 industry sectors, only energy had a positive return, a slight 0.2%.

Index funds, of course, would have fallen in line with the S&P 500 — losing about $2.2 billion in the first third of January.

As of Sept. 30, the Top 200 reported having $75.6 billion in indexed funds, generally all tied to the S&P 500. Those assets increased to $88.5 billion as of Dec. 31, but in January, fell to about $86 billion. ■

Are debt deals in trouble? . . .

Continued from page 5

agement Co., Newport Beach, Calif., said: "There are certainly enough examples to say there is trouble in 'junk bond city.' That's the impression we've drawn."

He said the problems with TWA, Beatrice and others represent a broad uneasiness with junk bonds by potential investors.

He said such recent junk bond issues, such as KKR's Storer financing, give a deceptive picture of the market. The Storer bonds, although sold in December, were part of a financing arranged in summer.

Mr. Gross predicted a drop in the amount of junk bond financings, and the use of less leverage, more equity and more bank financing in takeovers.

As further evidence of a general rejection of junk bonds, he cited the

the spread in prices between junk bonds and high-quality corporate bonds and government securities.

AIM's Mr. Crum said the spread on yields between junk bonds and Treasury securities is its widest of the past five years, in excess of 500 basis points.

Gerald Unterman, vice president, Solomon Asset Management, New York, takes a narrower view on the financing trouble.

"I think it's peculiar to these situations and the fundamentals of these companies involved," he said.

With MGM/UA, he said, "The price bid originally by Ted Turner was a very rich price."

Turner, who early in 1985 failed in his attempt to buy CBS Inc., hasn't completed his proposed takeover of MGM/UA. Drexel Burnham Lambert is helping to ar-

Plan surplus could . . .

Continued from page 3

said E.W. Tregre, public information manager for New Orleans Public Service.

Mr. Tregre said the company brought suit against the council seeking the rate increase.

"Originally, the lower courts ruled that federal jurisdiction did not apply in this case," he said. However, the company contends federal jurisdiction does apply since the case involves wholesale rates established by the Federal Energy Regulatory Commission.

The company appealed the ruling to the 5th U.S. Circuit Court of Appeals and is awaiting the ruling of that court.

According to testimony given at a Sept. 5 public hearing on alternatives to a rate increase, Richard Camus, the actuary, suggested the company terminate its pension plan and recapture an estimated $45 million in surplus assets.

Mr. Camus could not be reached for comment.

Mr. Tregre said the plan termination is not a viable alternative.

"(The council) told us as part of the proceedings to look at those funds, but how can we look at those funds if there are no excess assets," said Mr. Tregre.

"Our position is that our pension fund is only adequately funded. We are strongly opposed to using those assets in any way that would alter that funding," he said.

Councilman Bryan Wagner does not agree with the company's assessment of the plan's funding.

"In the opinion of myself and the city's actuary, we feel they are overfunded," he said.

The exact status of the company's pension plan is somewhat vague. Mr. Tregre said the company does not have an exact accounting of the fund's assets because of the spinoff of 1,200 employees to the Regional Transit Authority in July 1983, a process still not completed. An undetermined amount of the assets of the pension plan are being transferred to the RTA, he said.

Ronald L. Haneberg, a consulting actuary with Buck Consultants Inc., Dallas, and actuary for the Middle South system, said New Orleans Public Service plan, after the transfer of assets to the RTA, has about $100 million in total assets.

At the public hearing, Mr. Haneberg, serving as the company's witness, did confirm the presence of excess assets in the pension plan, but did not give an amount.

"If the plan were terminated today (Sept. 5) there would be excess assets," he said.

Contacted later, Mr. Haneberg said Mr. Camus' estimate was overly generous, but he would not pinpoint the amount of the surplus.

He said the proposal to terminate the plan would not eliminate the need for a rate increase later.

"(Recapturing the assets) is really more of the plan making a loan that would eventually have to be repaid," said Mr. Haneberg. "The City Council is saying we don't want to do anything for you now so you'll have to get by on a temporary basis and here is where you can get some funds."

The utility's Mr. Tregre said one possible obstacle to recovering the assets is that until 1983, employees had contributed to the pension plan. If a reversion results from a termination, the employees are entitled to share in the reversion above the amount of their accrued benefits, he said.

He said the company stands firm in its belief that plan assets belong to the employees.

"They were contributions approved by the regulatory bodies and they, too, would belong to the employees," said Mr. Tregre.

Although Mr. Wagner wants the company to use the pension assets instead of seeking a rate increase, he said the assets belong to the employees.

"The sole purpose of a pension plan is to function for the sole purpose of the people involved in it and that could mean keeping their jobs," said Mr. Wagner.

Mr. Wagner said the council does not intend to force the company into terminating its pension plan.

"The alternative would be to not put the money into their plan. That's what they did this year," said Mr. Wagner.

Mr. Tregre said the company did not make a contribution to the pension plan in 1985 and probably will not do so in 1986.

Mr. Haneberg said during the hearing he had changed the plan's interest assumption to 9% from 7%, making the contributions for plan years 1984 and 1985 unnecessary.

He said later the company's funding method also was changed, which brought the pension plan into a fully funded status.

In his testimony, Mr. Haneberg, said the $6 million would not need to be contributed, but he said the amount should not be considered additional revenue.

"The only comment I made before and I will again is that the amount that would have had to have been paid (is) not money coming in, it's saving money going out," said Mr. Haneberg.

Mr. Tregre said the council and the company are at odds over the way the pension assets should be handled. ■

4th-quarter shifts decide . . .

Continued from page 5

agement group came in third for the year in terms of assets gained, with slightly more than $1.4 billion. It also was third in the quarter, with $535 million.

The largest new account reported for the firm in the fourth quarter was a $400 million stock index fund for the Pennsylvania Public Employees' Retirement Association. A major account reported earlier in the year was a $750 million stock index fund for the Central States Teamsters.

Bankers Trust had 15 new accounts reported during the year, making it second to The Boston Co., which had 17. Bankers Trust's new accounts included master trustee relationships as well as discretionary investment management accounts.

Wells Fargo Investment Advisors had nearly $1.37 billion in new assets under management reported during the year, making it fourth. The total for the year includes $135 million reported in the fourth quarter, when it did not rank in the top 10.

The biggest account reported in the fourth quarter was a $65 million bond index fund for the Chicago Policemen's Annuity & Benefit Fund. Major accounts reported earlier in the year included a $1 billion index fund for the California State Teachers' Retirement System.

J.P. Morgan Investment Management Inc., New York, was sixth for the year in terms of new assets reported, with $986 million, and seventh for the fourth quarter, with $356 million.

The largest account reported for J.P. Morgan in the fourth quarter was a $200 million stock index fund for the Pennsylvania Public Employees' system. The most signifi-

year was a $600 million active fixed-income portfolio for the Iowa Public Employees' Retirement System.

Duff & Phelps Investment Management Co., Cleveland, was seventh for the year in terms of new assets, with $878 million, and fifth in the fourth quarter, with a $400 million balanced account for the Louisiana Employees' Retirement System. Other accounts reported for the firm in 1985 were in bonds.

Kohlberg Kravis Roberts & Co., New York, a leveraged buy-out firm, was eighth for the year and fourth for the quarter with $525 million in commitments from the Washington State Board of Investment, Oregon Public Employees' Retirement System, Wisconsin Investment Board and Minnesota State Board of Investment.

Richard Ellis Inc., the New York-based real estate firm, was ninth for the year with a new $500 million account for Royal Dutch Shell's pension fund reported during the second quarter. The firm had no new accounts reported in other quarters.

Neuberger & Berman, New York, placed 10th for the year in terms of new assets, with $379 million, and also 10th for the quarter, with $155.5 million. The largest of three accounts reported in the quarter was a $130 million short-term fixed-income portfolio for PPG Industries Inc., Pittsburgh. Other large accounts reported during the year included a $114 million fixed-income account for the W.K. Kellogg Foundation, Battle Creek, Mich.

The Boston Co., Boston, was one of two firms placing in the Top 10 for the quarter but not for the full year. It ranked ninth in the quarter with $171.8 million, including a $150 million balanced account for

First Kentucky Co., Louisville, ranked eighth in the quarter with a fixed income account of between $200 million and $250 million for the Kentucky Teachers' Retirement System. That was its only new account reported all year.

The Boston Co.'s 17 new accounts reported in the year included four in the fourth quarter. Besides The Boston Co., Bankers Trust and Mellon Capital, top gainers of accounts for the year were Trinity Investment Management Corp. and State Street Bank & Trust Co., both of Boston, each with 12.

Top account gainers for the fourth quarter were Mellon Bank, Pittsburgh, with seven master trust or custodial accounts; State Street Bank, with six accounts, mostly master trust or custodial; Investment Advisers, with five; and Heitman Advisory Corp., Chicago, with five. Ten firms had four new accounts reported in the quarter.

Firms that lost significant accounts in the year or quarter included Favia, Hill, with the loss of the New York public funds' accounts; Scudder, Stevens and Loomis, Sayles, with the loss of the West Virginia accounts; MacKay-Shields Financial Corp., New York; and The Griffin Group, Chicago.

Two firms were both winners and losers in the race for assets to manage. The Boston Co. had its fixed-income allocation from the Iowa public employees' system reduced to $700 million from $1.8 billion. At the same time, the firm had more new accounts reported than any other.

Alliance Capital Management Corp., New York, had several large accounts pulled during the year, including a $300 million balanced portfolio for the Kentucky Teachers' Retirement System and a $100 million balanced account for Deere & Co., Moline, Ill.

At the same time, Alliance had eight new accounts and $187.5 million in new assets reported during

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Pensions & Investment Age

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$400 million liquidated by ARCO plans

By Steve Hemmerick

LOS ANGELES — Atlantic Richfield Co. has liquidated between $400 million and $450 million from its defined benefit plans to pay benefits to employees taking a lump-sum, early retirement option.

E. Kent Damon Jr., ARCO's vice president and investment officer, said the money came from equity and fixed-income portfolios, but more from bonds than from stocks.

Mr. Damon had wanted to liquidate more real estate and venture capital than he was able to, so fewer equity and fixed-income holdings would have been affected.

"I think the experience reinforces things that we probably tell ourselves, but don't often have to deal with, and that is there is value in having liquidity in the portfolio. Things like real estate and venture capital are illiquid," he said.

"It was difficult to take anything out of real estate or venture capital. We know (that these areas are illiquid), but we don't know it as clearly until we experienced it."

Mr. Damon said he could not provide dollar amounts taken from each asset class.

He said the new asset mix is 65% equity (including real estate and venture capital) and 35% fixed income. Before the partial liq-

Continued on page 43

Late news

Ex-California chief indicted

SACRAMENTO, Calif. — Gilbert W. Chilton, the former chairman of the California State Teachers' Retirement System, has been indicted by a federal grand jury on two counts of conspiracy and one count of interstate travel in aid of a bribery and extortion scheme, according to the U.S. attorney's office in Sacramento.

The indictment stems from what federal prosecutors called an organized scheme to

Continued on page 42

Bond managers' returns mixed

PBGC equity managers lag market

By Joel Chernoff

WASHINGTON — Six of the Pension Benefit Guaranty Corp.'s eight equity managers underperformed the market during the year ended Nov. 30, by margins ranging from 1.4 percentage points to 9.1 percentage points, *Pensions & Investment Age* has learned.

The remaining equity managers were hired after Nov. 30, 1984.

The PBGC's managers weren't alone; nearly 75% of stock managers trailed the Standard & Poor's 500 stock index during 1985, according to the Trust Universe Comparison Service.

In total, the PBGC's equity managers' portfolios returned 25.6% for the 12-month period ended Nov. 30, compared with 29.3% for the S&P. When cash holdings are subtracted, however, the managers returned 27%, the agency disclosed. The median equity manager in the Hamilton, Johnston & Co. Inc. universe returned 26.3% for the period.

The agency's two fixed-income managers fared better: Pacific Investment Management Co., Newport Beach, Calif., beat its bogey in 1985 while Morgan Stanley Asset Management Inc., New York, fell slightly behind.

Although the data obtained by *P&I Age* covers only a year, it does give an early indication of how well the PBGC is doing as an investor.

"I think it's a little early to tell," said John Hotchkis, partner in Hotchkis & Wiley, Los Angeles, and chairman of the PBGC Advisory Committee's investment panel.

"I think we should be satisfied," commented Jay Jupiter, manager of the PBGC's investment management division. He noted the PBGC had picked managers to protect the agency in down markets while still aiming to beat the S&P.

"I think that the managers we have will be able to outperform the S&P over a market cycle," he added.

Investment income by the PBGC helps offset the agency's mammoth $1.3 billion deficit. While the income is not expected to erase that obligation, every little bit helps.

What's more, performance data on individual managers provides a glimpse of how someone else's managers fared, and information on the buys and sells during October and November offers an unusual glimpse of how the managers went about their business.

The PBGC had discretionary investments of $930 million as of Nov. 30. Another $34 million was run by specialty managers.

Some $200 million from terminated plans whose assets were not yet in trusteeship, $41 million in trusteed assets managed by outside custodians, $66 million in insurance contracts, and $5 million run by the PBGC's custodian, State Street Bank of Boston, gave the agency a total of $1.28 billion in assets.

Of that, $486.8 million was in equity investments and $443.5 million in fixed-income portfolios.

Equity returns were dragged down by $44 million newly invested with real estate managers, which earned little or no returns, noted Mr. Jupiter. In addition, all returns are net of transaction costs and manager fees, thus making them appear somewhat lower than standard managers' reports.

The agency's investment strategy has undergone an overhaul in recent years, switching to a multimanager system that has placed a more conservative bias on equity investments.

Continued on page 37

2 consolidate funds after mergers

By Alan Krauss

R.J. Reynolds Industries Inc., Winston-Salem, N.C., has dropped 10 money managers following the merger of its pension assets with those of Nabisco Brands Inc.

Reynolds acquired Nabisco in September, and merged Nabisco's $516 million pension fund with Reynolds' $2 billion fund.

In a similar development, BASF Corp., Parsippany, N.J., is merging pension assets as part of an overall financial consolidation with its latest acquisition — American Enka Corp., Enka, N.C.

When American Enka is fully absorbed, BASF will have pension assets totaling about $425 million, according to Fred Bernthal, chief financial officer.

Gene A. Hoots, president of RJR Investment Management Inc., Reynolds' in-house investment subsidiary said, "In combining the pension funds of the two companies, we found that we had too many firms involved in managing the funds.

"We have selected firms that we feel will work well together managing our assets."

Equity managers dropped were: Alliance Capital Management Corp., Bankers Trust Co. — Investment Management Group, Forstmann-Leff Associates Inc., MacKay-Shields Financial Corp., all of New York; Hellman, Jordan Management Co. Inc., Boston; and McKenzie Walker Investment Management Inc., Larkspur, Calif.

Bond manager Fischer, Francis, Trees & Watts Inc., New York, was dropped, as were Bear, Stearns Asset Management Inc., New York, for options; and Prudential Asset Management Co. Inc., Newark, N.J. and The Travelers Cos., Hartford, Conn., for real estate.

Mr. Hoots declined to give the amounts of assets the terminated firms had under management.

In the statement, Mr. Hoots said: "We want to stress that these managers performed well for RJR and Nabisco. They were not terminated because of their performance, but simply because we had too many managers with too many different management philosophies."

Most of the dropped managers were Nabisco's.

According to Mr. Hoots, the merger will not affect the asset allocation levels of the overall fund. As of Sept. 30, Reynolds reported its approximate asset mix as 62.7% equities, 28.1%

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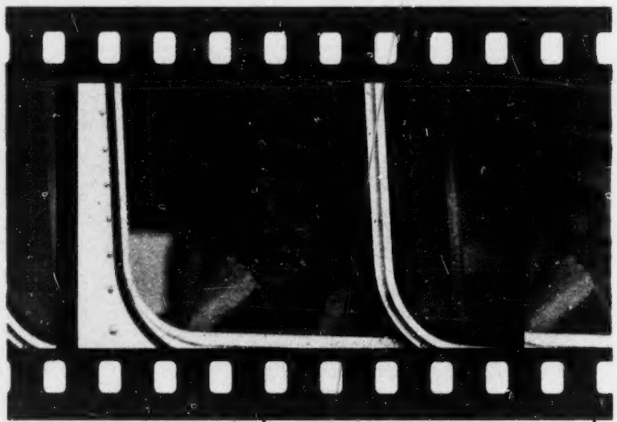


George M. Yaneff believes the skills he needs as a producer of movies, such as the critically acclaimed "Trip to Bountiful," aren't far removed from those he needs in the investment business.

Blue Cross sets up financing company

By Marci Baker

CHICAGO — The Blue Cross & Blue Shield Association, trying to amass greater financial clout has created a company to provide centralized financing and investment services to Blue Cross & Blue Shield plans nationwide.

Officials of the new company, Health Plans Capital Services Corp., are attempting to raise base capital through a private placement offering to the individual Blue Cross plans, said David Murdoch, Capital Services' president and chief executive officer.

The idea behind Capital Services is to take advantage of the

from pooling resources.

Individually, the roughly 85 Blue Cross plans, which operate as independent insurance companies, range in size from the very small to the very large. Together they have investment assets in general accounts that exceed $10 billion, Mr. Murdoch said. Total premiums for the group as a whole exceed $40 billion.

As smaller individual health insurers, Blue Cross plans often are limited primarily to more expensive bank loans for their capital raising needs. The public or private placement debt markets can be prohibitively expensive because

Corporate finance

Clark Equipment starts leveraged ESOP for workers

By Barry B. Burr

SOUTH BEND, Ind. — Clark Equipment Co. has set up a leveraged employee stock ownership plan that offsets the funding of its defined benefit plan and provides the company with its biggest source of corporate financing — $85 million — since 1974.

In effect, Clark will use the ESOP to pay for some or all of the benefits promised under the defined benefit plan. Only if the value of the stock in the ESOP is unable to finance the promised benefit will the benefit be paid from the defined benefit plan.

Thomas L. Doepker, Clark's vice president and treasurer, said Clark blended the ESOP with the defined benefit plan in large part because the company wants to have more of its stock in the hands of its employees.

(In a defined benefit plan, companies are prohibited by the Employee Retirement Income Security Act from putting more than 10% of plan assets in company stock; no such restrictions exist in an ESOP.)

With about $300 million in pension assets, Clark could contribute — at most under ERISA — about $30 million of its stock to the plan, Mr. Doepker noted. Through the ESOP, he said, Clark can fund the plan with $85 million of stock.

Some experts said Clark's move raises a number of pension regulatory issues, even though they said a few companies have set up similar integrated funding programs.

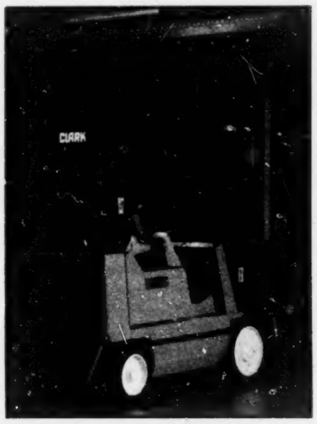
"You end up with an issue of whether the ESOP qualifies as an ESOP when it's integrated with the defined benefit plan," said Roger C. Siske, partner in the Chicago law firm of Sonnenschein, Carlin, Nath & Rosenthal.

"There are a number of questions on whether it meets all ERISA rules."

He added, "Is the ESOP really an ESOP when it's in this relationship?"

John Hoos, partner and manager of the legal group at Hewitt Associates, Lincolnshire, Ill., said generally, "the ESOP is funding the pension promise."

If Clark's stock falls sharply, he said, the Pension Benefit Guaranty Corp. is "going to be concerned about how much in assets are left in the defined benefit plan."



Although unfamiliar with the Clark program, Mr. Hoos added, "We think it's a viable concept in certain situations. As with anything, there are certain issues involved."

Officials from the Department of Labor and the PBGC were unavailable for comment.

Michael Hanesworth, Clark's general labor counsel, said Clark expects to receive Internal Revenue Service qualification of the ESOP and its integration with the funding of the defined benefit plan.

"The defined benefit plan

Continued on page 40

Continental Steel seeks termination

By Trudy Ring and Joel Chernoff

KOKOMO, Ind. — Continental Steel Corp. wants to use bankruptcy proceedings to terminate two pension plans underfunded by an estimated $49 million.

The steel company also is seeking to recover $2.8 million in contributions made to the plans in September. It had received funding waivers totaling about $27.5 million for its pension plans for five consecutive plan years, 1980 through 1984.

The Pension Benefit Guaranty Corp., which would become responsible for the pension plans if they are terminated, is opposing Continental's petitions. The agency opposes terminating plans through the courts, rather than through the procedures prescribed by the Employee Retirement Income Security Act.

"Our legal staff feels that the PBGC's position will be upheld," said Kathleen P. Utgoff, executive director.

In a separate discussion regarding taking the agency private, Ms. Utgoff charged the termination program for single-employer plans is turning into a vast subsidy program for inefficent industries, particularly the steel industry.

"We have now given or are going to give something like $1 billion to the steel industry," she said. "We're keeping a lot of inefficient steel companies, we're allowing them to compete, to spread out fixed costs, to have higher prices, for just very bizarre reasons.

"To give money to the steel industry because (a company has) an underfunded pension plan doesn't seem to me to achieve any of the objectives you might have as either national economic objectives, as retirement objectives or as steel objectives."

A termination by Continental

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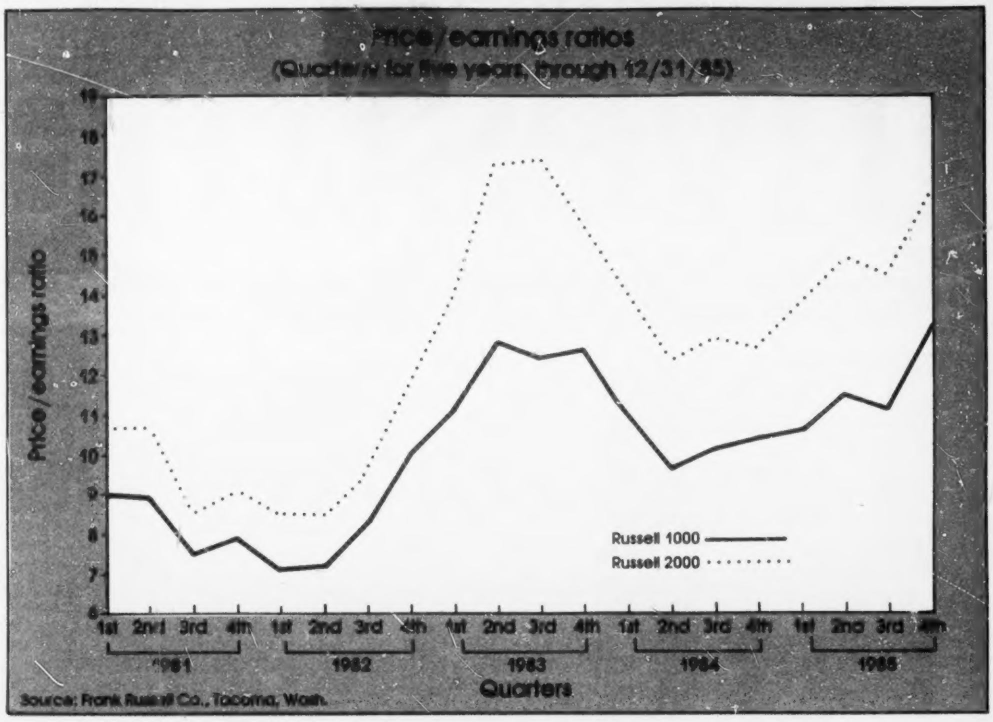
Price/earnings ratios
(Quarterly for five years, through 12/31/85)

Source: Frank Russell Co., Tacoma, Wash.

Market may be near its peak

Low p/e opportunities wane

By Lauren Picker

Many value-oriented money managers are finding slim pickings in the stock market, indicating the market might be nearing its peak.

Opportunities still exist, but are harder to find, according to managers surveyed in late January by *Pensions & Investment Age*.

"We're in the eighth or ninth inning of the ball game," said Derwood Chase, president and chief investment officer of Chase Investment Counsel Corp., Charlottesville, Va.

Most companies with low price-earnings ratios "represent some sort of problem company with very erratic earnings," and "don't have the large growth we're looking for," Mr. Chase said.

Although he believes there's "quite a bit of risk in this market," he also suspects "the party isn't over yet."

Indeed, many value managers are approaching the market with a curious blend of caution and confidence. Most believe promising issues exist, but are difficult to identify.

"The market's pretty well picked over," said Charles Clough, chief investment strategist at Collin & Co., Boston. "There are not a lot of things that are really screaming buys right now.

"A low p/e manager today has opportunities. On the surface, opportunities seem to be limited, but what he'd have to do is look in specific industries where earnings are extremely depressed right now.

"What a valuation or contrarian or low p/e manager has to do is basically bet that, in the future, a lot of this will improve."

Continued on page 43

Sale-leaseback cuts costs

By Steve Hemmerick

BUTTE, Mont. — Montana Power Co. cut the cost of its debt and lowered the cost of its energy in a sale-leaseback leveraged by selling $217 million in secured notes to investors such as the Harvard University Endowment and Cummins Engine Co. pension fund.

The leveraged sale-leaseback was for Montana Power's interest in a new coal-fired electric generating plant. Pension money also was invested through Morgan Guaranty Trust Co.

Perry Cole, manager of budget and financial planning for Montana Power, said he could not give an estimate on the exact savings the company will realize, adding it depends on the accounting methods used.

The notes pay an average of 12.6% interest.

Mr. Cole said the deal, which was put together in September but not executed until December, has "turned out well for everybody." He projected the deal would cut the cost of the company's power to just more than 4 cents per kilowatt hour from 5½ cents.

But the situation didn't look as good some months back, according to Mr. Cole.

He said the utility owned 30% interest in a generating plant, Colstrip Unit 4, that is expected to begin commercial operation in April. The plant produces 700

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Vol. 14, No. 3 — Pensions & Investment Age (ISSN 0273-5466) is published every other Monday at 740 Rush St., Chicago, Ill. 60611. Second class postage paid at Chicago, Ill. and at additional mailing offices. Postmaster: Send address changes to Pensions & Investment Age, Circulation Dept. 965 E. Jefferson, Detroit, Mich. 48207.
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SCORECARD

Illustration by Jim Flynn

Managers win top spots with passive products

By Ed Christman

For the second straight year, pension funds and other tax-exempt investors poured money into passive products, helping money managers specializing in passive investing snare more than half of the $83.4 billion net new business in 1985.

Of the $43.2 billion in net new business reported to *Pensions & Investment Age's* second annual Scorecard survey, $18.4 billion was for guaranteed investment contracts and other annuity products offered by insurance companies; $17.1 billion, equity indexing; $6 billion, dedications and immunizations; and $1.7 billion, fixed-income indexing.

In addition, managers offering passive investments garnered nine of the Top 10 spots for net dollar gain in business.

Interest in passive investments parallels the growth of defined contribution plans, the increase in pension plan terminations resulting in the purchase of annuities to cover vested benefits and the inability of many active money managers to outperform the markets.

Overall, managers responding to the Scorecard survey reported about $100 billion in new business and $17 billion in business lost, resulting in a net gain of $83 billion.

Of the total gain, about $67 billion was from 5,321 new clients, while $33 billion was additional money from existing clients.

Managers were asked to report net business gain for Jan. 1 to Dec. 1, 1985. Of the 301 responding, 56 were eliminated because they did not, as requested, supply new client names.

Those breaking out their net gain by investment vehicle reported $32.5 billion in equities; $17.9 billion, fixed income; $4.9 billion, balanced accounts; $4.8 billion, equity real estate; $266 million, mortages; $16.9 billion, GICs; and $6.2 billion, other categories.

Wells Fargo Investment Advisors, San Francisco, which offers mostly indexing products, handily gained the most net new business — almost $10.5 billion.

Of that, $8.7 billion was for equities, including $8.5 billion for indexing; $507 million was for fixed income, including $476 million for indexing and $31 million for dedicating and immunizing; $493 million was for balanced accounts; and $805 million was for hedged-core portfolio insurance.

Wells Fargo's new clients include Allied Stores Corp., New York; American Standard Inc., New York; California State Teachers' Retirement System, Sacramento; General Electric Co., Stamford, Conn.; New York State Common Retirement Fund, New York; NYNEX Corp., New York; and Vanderbilt University, Nashville, Tenn.

Mellon Capital Management, another San Francisco money manager specializing in index funds, was No. 2, with a net gain of $5.9 billion worth of new business.

Of that, $5.475 billion was for equities, including $2.784 billion in indexing; $425 million was for asset allocation, a balanced passive portfolio.

New clients include Bell Atlantic Corp., Philadelphia; Caterpillar Tractor Co., Peoria, Ill.; Central States Teamsters, Chicago; Mayo Foundation, Rochester, Minn.; U S WEST Inc., Englewood, Colo.

Prudential Asset Management Co. Inc., Newark, N.J., was third, with $5.7 billion, of which $4.3 billion was for GICs and other general account annuity products.

For those products, new clients include Ameritech Technologies, Chicago; Conoco Inc., Wilmington, Del.; NYNEX; and Pan American World Airways Inc., New York.

Prudential also reported a net gain of $550 million for equities; $662 million, fixed income; $121 million, balanced accounts; $57 million, equity real estate; and $15 million, non-U.S. markets.

New real estate clients were A.H. Robins Co., Richmond, Va.; Daniel International Corp., Greenville, S.C.; and the Illinois Municipal Retirement Fund, Chicago.

The only Top 10 manager not specializing in passive products was Leland O'Brien Rubinstein Associates Inc., Los Angeles, which does dynamic risk hedging to provide protective portfolio management. The firm's net gain in business was $2.8 billion, largely from new clients including Mead Corp., Dayton, Ohio; and Southern California Rapid Transit District, Los Angeles.

Six of the managers with assets of more than $1 billion made repeat showings in the Top 10: Metropolitan Life Insurance Co., New York, which was top in 1984; Wells Fargo, second place for that year; State Street Bank & Trust Co., Boston, fourth; Aetna Life and Casualty Co., Hartford, Conn., sixth; Prudential Asset Management, eighth; and Mellon Capital, 10th.

The four new Top 10 managers are J.P. Morgan Investment Management Inc., New York, ranked fifth; Leland O'Brien Rubinstein, ranked sixth; Bankers Trust, New York, ninth; John Hancock Finan-

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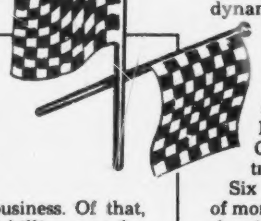
GICs firms surge ahead

Move to defined contribution plans cited



Insurance company general account products had a banner year because sponsors' increased use of defined contribution plans.

Plan sponsors bought $16.9 billion in guaranteed investment contracts and other general account products, according to *Pensions & Investment Age's* second annual Scorecard.

Meanwhile, balanced managers reported a net gain in assets of about $5 billion.

Among firms offering GICs and other general account products, Prudential Asset Management Group, Newark, N.J., catapulted to the top spot of the Top 10 rankings, with $4.3 billion in net sales.

Prudential overtook Metropolitan Life Insurance Co., New York, the leader in last year's Scorecard in that category. In 1985, Metropolitan had net sales of $3.8 billion, down from the $4.9 billion it reported in the previous survey.

Aetna Life & Casualty Co., Hartford, Conn., climbed into third place this year, with $2.073 billion in net business. Of that, more than $1.3 billion was for GICs, $573.3 million was for general account products and $171.5 million was for annuity closeouts.

Business generated by the Top 10 in GICs and general account products totaled $16.2 billion.

Prudential and Aetna both showed a gain in net new business between 1984 and 1985. Prudential reported $2.4 billion in net gain in those products in 1984, almost $2 billion less than

Continued on page 36

Net dollar gain

Top 10 managers over $1 billion

Companies	$ mils.
Wells Fargo Investment, San Francisco	10,455.0
Mellon Capital Mgmt., San Francisco	5,900.0
Prudential Asset Mgmt., Newark, N.J.	5,723.0
Metropolitan Life Ins. Co., New York	4,151.0
J.P. Morgan Mgmt., New York	3,284.0
Leland O'Brien Rubinstein, Los Angeles	2,821.0
State Street Bank, Boston	2,813.0
Aetna Life & Casualty, Hartford, Conn.	2,764.0
Bankers Trust-Invest. Mgmt., New York	2,123.9
John Hancock Financial, Boston	1,775.3

Top 10 managers $250 mil. to $1 bil.

Companies	$ mils.
Brignoli, Curley & Roberts, New York	457.0
Pilgrim, Baxter, Hoyt & Greig, Wayne, Pa.	444.0
TCW Realty Advisors, Los Angeles	430.9
Primco Capital Mgmt., Louisville, Ky.	400.0
Dreman & Embry, New York	320.6
Donald Smith & Co., Paramus, N.J.	303.6
Pacific Financial, Beverly Hills, Calif.	273.5
Lowe, Brockenbrough, Richmond, Va.	270.0
Jones Lang Wootton Realty, New York	250.0
Morley Capital Mgmt., Lake Oswego, Ore.	214.0

Top 10 managers under $250 million

Companies	$ mils.
Magten Asset Mgmt., New York	149.0
Hahn, Holland & Grossman, Chicago	117.0
Eagle Asset Mgmt., St. Petersburg, Fla.	109.0
Tukman Capital Mgmt., Larkspur, Calif.	100.0
John McStay Investment, Dallas	90.0
Julius Baer Investment, New York	85.0
Mortgage Investors Group, Detroit	85.0
Kurtz Capital Mgmt., Livingston, N.J.	78.0
Crabbe-Huson Co., Portland, Ore.	73.8
Arnhold & S. Bleichroeder Intl., New York	70.0

Wells Fargo is tops in equity

Indexing continues its domination

Ed Christman

For the second straight year, index managers dominated the equity new business marketplace, snaring $16.5 billion, or slightly more than half, of the $32.5 billion net gain in business reported by equity managers.

Five of this year's Top 10 managers in *Pensions & Investment Age's* Scorecard can credit their rankings to their index business. The Top 5 managers generated a net gain in equity business of $18 billion of which $15.4 billion, or 85.5%, was for indexed management.

Last year, four index managers made the rankings, but the success enjoyed by those managers was not as significant as in 1985.

Last year's leader, Wells Fargo Investment Advisors, San Francisco, once again emerged as the top equity manager, chalking up a net gain of $8.65 billion, of which $8.54 billion was for indexing. Last year, Wells Fargo's net gain was $2.8 billion.

Frederick L.A. Grauer, president of Wells Fargo, attributed the net gain this year to size and tracking ability.

In indexed management, Mr. Grauer noted, the firm gets better as it gets bigger, which often is not the case in active management.

And the firm's size results in minimal execution cost, which helps performance, he said.

The shift to indexed management by tax-exempt institutional funds has been spurred by weak performance by active managers during the past few years.

"1985 is turning out to be a year when active managers have again not done well," he said.

Mellon Capital Management, San Francisco, once again came in second, with a $5.5 billion net gain in business, compared with about $1.5 billion last year.

Of the $5.5 billion, $2.7 billion was for the Standard & Poor's 500 stock index, with the rest in other indexed products and core equity strategies.

"In general, there has been an extraordinary increasing interest in core management, asset allocation and quantitatively driven passive strategies, which is the reason why our business has increased so much," said Thomas S. Loeb, president.

In third place was Bankers Trust — Investment Management Group, New York, which posted a net gain of $1.9 billion. For equity indexing, the firm reported a net gain of $2.7 billion, but lost business in other equity products resulted in the lower overall net gain in equity business.

State Street Bank & Trust Co., Boston, ranked fourth with a $990 million net gain in new equity business, of which $761 million was for indexing. Last year, it finished fifth, with a $720 million net gain, of which 85% was for index management.

Northern Trust Co., Chicago, holds the fifth spot this year, with a gain of $932 million, of which $640 million was for indexing.

Beutel, Goodman Capital Management Ltd., Houston, landed in the sixth spot, with a net gain of $650 million. It was the highest ranking active equity manager.

"1985 was a one time thing for a firm like ours," said Robert F. McFarland, president. "It was the year when everything came together.

"It takes a few years to establish yourself with clients and consultants," said Mr. McFarland of the firm that opened its American operations in early 1982. "In 1985, with three years of performance, plus the performance data portfolio managers brought from previous positions, we reached a level of maturity where larger funds considered us for the first time."

The firm uses a low price-earnings, value-oriented style, which many funds choose to have in their manager line-up, he said. The firm added 13 clients and $650 million.

Among the new clients are Southwestern Bell Corp., St. Louis, and Bell & Howell Co., Chicago.

Mr. McFarland added his firm probably won't appear in the Top 10 next year. "Our growth is largely behind us . . . and we are

Continued on page 36

Most new equity business (net)

Top 10 managers over $1 billion

Companies	$ mils.
Wells Fargo Investment, San Francisco	8,650.0
Mellon Capital Mgmt., San Francisco	5,475.0
Bankers Trust-Invest. Mgmt., New York	1,905.7
State Street Bank, Boston	990.0
Northern Trust Co., Chicago	932.0
Beutel, Goodman Capital Mgmt., Houston	650.0
Citicorp Investment Mgmt., New York	592.0
Boston Co. Inc., Boston	568.2
Franklin Portfolio Associates, Boston	554.7
Prudential Asset Mgmt., Newark, N.J.	550.0

Top 10 managers $250 mil. to $1 bil.

Companies	$ mils.
Brignoli, Curley & Roberts, New York	457.0
Pilgrim, Baxter, Hoyt & Greig, Wayne, Pa.	444.0
Jundt/Capen Assoc., Minneapolis	365.0
Donald Smith & Co., Paramus, N.J.	303.6
Pacific Financial, Beverly Hills, Calif.	273.5
Dreman & Embry Inc., New York	244.3
Mellon-Pictet Int'l. Mgmt., London	184.0
Roanoke Asset Mgmt., New York	168.0
Lieber & Co., Harrison, N.Y.	162.5
Renaissance Invest. Mgmt., Cincinnati	152.0

Top 10 managers under $250 million

Companies	$ mils.
Hahn, Holland & Grossman, Chicago	112.0
Eagle Asset Mgmt., St. Petersburg, Fla.	109.0
Tukman Capital Mgmt., Larkspur, Calif.	100.0
John McStay Investment Counsel, Dallas	90.0
Kurtz Capital Mgmt., Livingston, N.J.	78.0
Arnhold & S. Bleichroeder Intl., New York	70.0
Target Investors, Stamford, Conn.	67.0
Greenspan O'Neil Assoc., New York	56.8
Glass, Austin & Calvert, San Antonio, Texas	53.2
Crabbe-Huson Co., Portland, Ore.	51.4

Bond index, dedication managers fare well

By Trudy Ring

Bond index funds and dedicated or immunized bond portfolios attracted large chunks of pension assets in 1985, but active fixed-income management, including use of junk bonds, also drew clients.

Among firms with more than $1 billion under management, the ones with the largest net gain in tax-exempt fixed-income assets were J.P. Morgan Investment Management Inc., New York, which handles many dedications, and State Street Bank & Trust Co., Boston, a leading index fund manager.

Among the medium-sized firms, with $250 million to $1 billion under management, a variety of active fixed-income styles drew new assets. Big gainers in active management in this size group included Lowe, Brockenbrough, Tierney & Tattersall Inc., Richmond, Va., and NC Capital Management Group, Williamsport, Pa.

Among small firms, with less than $250 million under management, the biggest gainer was Magten Asset Management, New York, a junk bond specialist.

J.P. Morgan led its size group and fixed-income managers overall with a net gain of $3.15 billion in new fixed-income business. It also won the most new assets for dedicated bond portfolios, nearly $2 billion.

Outside of dedicated portfolios, J.P. Morgan's fixed-income strategy includes interest rate forecasting with an emphasis on sector and yield spread. In both active and passive fixed-income management, the firm at times uses non-traditional securities such as private placements, international bonds, mortgages and futures and options.

The firm provided *Pensions & Investment Age* with names of new clients on the condition that the names not be published. However, new clients reported in *P&I Age* previously included the Iowa Public Employees' Retirement System and the Caterpillar Tractor Co. pension fund, Peoria, Ill.

State Street Bank was second among large managers with $1.35 billion in new fixed-income assets. This included $654 million in bond index funds. In actively managed portfolios, as well as dedicated, immunized and indexed ones, the firm focuses on risk management.

State Street Bank also provided client names on the condition they not be published.

The third largest gainer among large firms was Duff & Phelps Investment Management Inc., Cleveland, with $1.05 billion in new fixed-income business. Duff & Phelps follows an active strategy, emphasizing interest rate anticipation and sector analysis and using high-quality bonds.

Clients added in 1985 include the Arizona State Retirement System, City of Seattle Retirement System and Louisiana State Employees' Retirement System.

Also gaining $1 billion in fixed-income business was Discount Corp. of New York Advisers. The firm takes a conservative yet active approach to fixed-income management, adjusting investments to anticipate interest rate movements. Its new clients included Eastman Kodak Co., Rochester, N.Y.; Pacific Telesis Group, San Francisco; and Southern Co. Services Inc., Atlanta.

Another leading gainer in assets for dedicated bond portfolios was National Investment Services of America, Milwaukee, with $735 million for dedications. It had a net gain of $770 million in fixed-income business, placing it fifth among large firms. New fixed-income clients included U S WEST Inc., Englewood, Colo., and Interlake Inc., Oak Brook, Ill.

NISA was the top gainer of fixed-income assets in 1984, thanks to a $2.4 billion dedicated bond portfolio for American Information Technologies Corp., Chicago. In general, other firms that gained much fixed-income business in 1985 were not among the top gain-

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Most new fixed-income business (net)

Top 10 managers over $1 billion

Companies	$ mils.
J.P. Morgan Investment Mgmt., New York	3,153.0
State Street Bank, Boston	1,350.0
Duff & Phelps Investment Mgmt., Chicago	1,051.0
Discount Corp. of N.Y., New York	1,000.0
Nat'l. Invest. Serv. of America, Milwaukee	770.0
Putnam Advisory Co., Boston	700.7
Wellington/Thorndike, Doran, Boston	672.0
Prudential Asset Mgmt., Newark, N.J.	662.0
Morgan Stanley Asset Mgmt., New York	528.0
Wells Fargo Investment, San Francisco	507.0

Top 10 managers $250 mil. to $1 bil.

Companies	$ mils.
Lowe, Brockenbrough, Richmond, Va.	195.0
N C Capital Mgmt., Williamsport, Pa.	161.6
Baring Int'l. Investment Ltd., Boston	151.0
Ward & Wissner Capital Mgmt., New York	110.0
Columbus Circle Investors, New York	100.0
Minton/Newbold's Capital Mgmt., Philadelphia	68.3
Travelers Hill Samuel Int'l., Hartford, Conn.	47.5
Marine Investment Mgmt., Springfield, Ill.	47.0
Chicago Corp., Chicago	41.0
PCM International, Newark, N.J.	20.0

Top 10 managers under $250 million

Companies	$ mils.
Magten Asset Mgmt., Corp., New York	149.0
Julius Baer Invest. Mgmt., New York	56.0
Portfolio Group Inc., New York	18.4
George K. Baum Mgmt., Kansas City, Mo.	12.0
American Express Asset Mgmt., New York	10.0
New Mexico Capital, Albuquerque, N.M.	7.6
American Asset Mgmt. Co., Cleveland	5.0
Applied Portfolio Disciplines, New York	5.0
C.J. Lawrence Mgmt., New York	5.0
E.M.G. Advisors, Westport, Conn.	3.7